

SETTLEMENT AGREEMENT

This Settlement Agreement is entered into between the California Air Resources Board ("CARB"), a California state agency with its principal location at 1001 I Street, Sacramento, California 95814; and Volvo Group North America, LLC ("Volvo"), a Delaware limited liability company authorized to conduct business in California, with its principal location at 7900 National Service Road, Greensboro, North Carolina 27409 (collectively, the "Parties," or individually, "Party").

RECITALS

WHEREAS, CARB alleges that Volvo violated certain provisions of California law (collectively, the "Claims"), including without limitation California Health and Safety Code §§ 43016, 43106, 43151, 43211, and 43212; Cal. Code Regs., tit. 13, §§ 1956.8, 1965, and 1971.1, with regard to approximately 10,326 Model Year ("MY") 2010-2016 new heavy-duty on-road engines that Volvo certified, manufactured, imported, distributed, introduced into commerce or sold in California (collectively, the "Subject Engines") for operation in highway heavy-duty vehicles (collectively, the "Subject Vehicles");

WHEREAS, CARB alleges, among other things, that Volvo failed to describe adequately certain Auxiliary Emission Control Devices ("AECs") (defined below) contained in the Subject Engines, some that have resulted in increased oxides of nitrogen ("NOx") emissions from each Subject Engine;

WHEREAS, Volvo acted transparently and in good faith in explaining and improving certain AECs contained in the Subject Engines and has fully cooperated with CARB's investigation;

WHEREAS, the Parties have agreed, through this Settlement Agreement, to resolve the Claims related to the Subject Engines without the need for litigation;

WHEREAS, through this Settlement Agreement Volvo agrees to take certain actions, agrees to refrain from taking certain actions, and agrees to pay specified monetary amounts to CARB, including environmental mitigation funds paid to CARB via the Air Pollution Control Fund and programs funded by Volvo which are intended to mitigate excess emissions from the Subject Vehicles in California;

WHEREAS, nothing in this Settlement Agreement shall constitute an admission of any fact or law by any Party, except for the purpose of enforcing the terms or conditions set forth in the Settlement Agreement;

WHEREAS, the Parties recognize and agree that this Settlement Agreement has been negotiated by the Parties in good faith and will avoid litigation between the Parties regarding certain aspects of the Claims, and that this Settlement Agreement is fair and reasonable, with CARB alleging that it also is in the public interest;

WHEREAS, the terms of this Settlement Agreement shall be governed by the laws of the State of California; and

WHEREAS, this Settlement Agreement and all Appendices hereto, together form an integrated resolution of the Claims.

NOW, THEREFORE, in consideration of the foregoing, the uncertainties, costs and delays of litigation, and of the promises and facts set forth herein, before the taking of any testimony, without the adjudication of any issue of fact or law, the Parties agree as follows:

AGREEMENT

I. APPLICABILITY

1. The obligations of this Settlement Agreement apply to and are binding upon CARB, and upon Volvo and any of Volvo's successors, assigns, or other entities or persons otherwise bound by law.
2. No transfer of ownership or operation of Volvo or substantially all of the assets of its engines manufacturing business, whether in compliance with the procedures of this Paragraph or otherwise, shall relieve Volvo of its obligation to ensure that the terms of this Settlement Agreement are implemented. At least 30 Days prior to such transfer, Volvo shall provide a copy of this Settlement Agreement to the proposed transferee and shall simultaneously provide written notice of the prospective transfer, together with a copy of the proposed written transfer agreement to CARB in accordance with Section XIV (Notices and Submissions).
3. Volvo shall provide a copy of this Settlement Agreement to the members of its Board of Directors and to its officers and executives whose duties might reasonably include compliance with, or oversight over compliance with, any provision of this Settlement Agreement. Volvo shall also ensure that any contractors retained to perform work required under the material terms of this Settlement Agreement, agents, or employees whose duties might reasonably include compliance with any provision of this Settlement Agreement are made

aware of those requirements of the Settlement Agreement relevant to their performance of their work for Volvo.

4. In any action to enforce this Settlement Agreement, Volvo shall not raise as a defense the failure by any of its respective officers, directors, employees, agents, or contractors to take any actions necessary to comply with the provisions of this Settlement Agreement, except in accordance with the provisions of Section XI (Force Majeure).

II. DEFINITIONS

5. Terms that are defined in this Settlement Agreement are defined for purposes of this Settlement Agreement only and are not applicable for any other purpose. Whenever the terms set forth below are used in this Settlement Agreement, the following definitions shall apply:
 - a. "Additional Reported OBD Noncompliances" means any and all noncompliances with Cal. Code Regs., tit. 13, § 1971.1 that were disclosed by Volvo to CARB that are not (1) a Pre-Approved OBD Noncompliance; (2) an Unreported OBD Noncompliance; (3) an OBD Noncompliance Resulting in Mandatory Recall; or (4) an OBD Noncompliance with Inspection and Maintenance (Clean Truck Check).
 - b. "Air Pollution Control Fund" means the fund established by California Health and Safety Code § 43015.
 - c. "Approved Emission Modification" means the Proposed Emission Modification that Volvo submits to CARB, and that CARB has approved, as part of Volvo's Remedial Plan to bring the Model Year 2014-2016 Recall Group into compliance with applicable emission standards.
 - d. "Approved Emission Modification Program" means the program required under Section V (Compliance Requirements).
 - e. "Approved Emission Modification OBD Demonstration Report" means the report and all required content, as specified in Appendix A to this Settlement Agreement.

- f. "Auxiliary Emission Control Device" or "AECD" has the meaning set forth in 40 C.F.R. § 86.082-02.
- g. "Business Day" means a calendar day that does not fall on a Saturday, Sunday, federal holiday, or California state holiday. In computing any period of time under this Settlement Agreement, where the last Day would fall on a Saturday, Sunday, federal holiday, or California state holiday, the period shall run until the close of business of the next Business Day. The time in which any act provided by this Settlement Agreement is to be done is computed by excluding the first day, and including the last, unless the last day is a Saturday, Sunday, federal holiday, or California state holiday, and then it is also excluded.
- h. "California Credited Vehicles" means the sum of: (1) the number of Eligible Vehicles registered with the California Department of Motor Vehicles (DMV) that have received the Approved Emission Modification by the applicable Recall Target Deadline; and (2) the number of Subject Vehicles registered with the California DMV that are Ineligible Vehicles.
- i. "California Recall Target Rate" has the meaning given in Paragraph 26.
- j. "CARB" means the California Air Resources Board and any of its successor departments or agencies.
- k. "Claims" means the provisions of California law that CARB contends were violated by Volvo, including without limitation California Health and Safety Code §§ 43016, 43106, 43151, 43211, and 43212; Cal. Code Regs., tit. 13, §§ 1956.8, 1965, and 1971.1, with regard to approximately 10,326 MY 2010-2016 new heavy-duty on-road engines that Volvo certified, manufactured, imported, distributed, introduced into commerce or sold in California (the Subject Engines) for operation in highway heavy-duty vehicles (the Subject Vehicles).
- l. "Day" means a calendar day unless expressly stated to be a Business Day. In computing any period of time for a deadline under this Settlement Agreement, where the last day would fall on a Saturday,

Sunday, federal holiday, or California state holiday, the period runs until the close of business of the next Business Day. The time in which any act provided by this Settlement Agreement is to be done is computed by excluding the first day, and including the last, unless the last day is a Saturday, Sunday, federal holiday, or California state holiday, and then it is also excluded.

- m. "Dealer" means any entity or individual, without regard to location, authorized by Volvo to sell new Volvo or Mack Trucks brand engines or vehicles in California and to service those vehicles in California.
- n. "Defeat Device" has the meaning provided under 40 C.F.R. § 86.004-2, as incorporated by reference in Cal. Code Regs., tit. 13 § 1956.8(b).
- o. "Effective Date" means the date on which this Settlement Agreement has been signed by the Parties.
- p. "Eligible Lessee" means (1) the current lessee or lessees of an Eligible Vehicle with an active lease as of the date the Eligible Vehicle receives the Approved Emission Modification; (2) the current lessee or lessees of an Equivalent Vehicle with an active lease as of the date the Equivalent Vehicle receives the Approved Emission Modification; or (3) solely for purposes of any OBD recall, the subsequent lessee or lessees of an Eligible Vehicle or an Equivalent Vehicle at the time of the OBD recall.
- q. "Eligible Owner" means the (1) owner or owners of an Eligible Vehicle on the day that the Eligible Vehicle receives or is eligible to receive the Approved Emission Modification; (2) owner or owners of an Equivalent Vehicle on the day that the Equivalent Vehicle receives or is eligible to receive the Approved Emission Modification; or (3) solely for purposes of any OBD recall, the subsequent owner or owners of an Eligible Vehicle or an Equivalent Vehicle at the time of the OBD recall.
- r. "Eligible Vehicle" means any Subject Vehicle powered by a Subject Engine that is eligible for an Approved Emission Modification and is (1) registered with the California DMV or successor agency or held

by a Dealer or unaffiliated dealer and located in California; and (2) operable as of the date the vehicle is brought in for the Approved Emission Modification or as of the Recall Target Deadline (as defined in Paragraph 26) for vehicles that are not brought in for the Approved Emission Modification.

- s. "Emission Control System" has the meaning provided under 40 C.F.R. § 1036.801, as incorporated by reference in Cal. Code Regs., tit. 13 § 1956.8(b).
- t. "Emission Modification" means the updated hardware and/or revised software configurations/calibrations that Volvo will be installing in Model Years 2014 through 2016 Eligible Vehicles or Equivalent Vehicles as part of the Approved Emission Modification Program, defined in Section V (Compliance Requirements) of this Settlement Agreement.
- u. "Engine Family" means a family of engines that is grouped together for certification and compliance purposes because the engines are expected to have similar emission characteristics throughout their Full Useful Life periods. Each Engine Family is assigned a unique 12-character alphanumeric name that begins with a one-digit model year date code. As used in this Settlement Agreement, the term "Engine Family Suffix" means the portion of the alphanumeric Engine Family code after the one-digit model year date code.
- v. "Equivalent Vehicle" means a Model Year 2014 through 2016 Volvo vehicle powered with Volvo Engine Family EVPTH10.8G01, EVPTH12.8G01, FVPTH10.8G01, FVPTH12.8G01, GVPTH10.8G01, or GVPTH12.8G01 that is not a Subject Vehicle. For purposes of calculating the California Recall Target Rate, Equivalent Vehicles shall meet the same qualifications required for Eligible Vehicles under this Settlement Agreement.
- w. "Field Fix" has the meaning provided pursuant to CARB Manufacturer's Advisory Correspondence #79-002, "Field Fixes Involving Emission-Related Components," (Jan. 31, 1979).

- x. "Full Useful Life" means the period during which a Subject Engine, Subject Vehicle, or Equivalent Vehicle, is required to comply with all applicable emission standards.
- y. "Ineligible Vehicle" means any Eligible Vehicle or Equivalent Vehicle that has been altered with the use of any aftermarket emissions-related components, parts, or software or the removal of any original emissions-related components, parts, or software, and such alteration(s) are likely to negatively impact the performance and operation of the vehicle or emission control system with an Approved Emission Modification or substantially impede installation of an Approved Emission Modification. The owner or lessee of such a vehicle, at his or her expense, may reverse the alteration(s) such that an Approved Emission Modification may be installed and not be substantially affected. Once the owner or lessee completes such a reversal, the vehicle shall be considered an Eligible Vehicle or Equivalent Vehicle, as applicable, so long as it meets the definition of an Eligible Vehicle or Equivalent Vehicle after any alteration is reversed.
- z. "Inspection and Maintenance Readiness Flags" means the readiness status for each component/system readiness bit identified in Cal. Code Regs., tit. 13, § 1971.1(h)(4.1) and SAE International J1979 specifications (i.e., Service \$01, Parameter Identification \$01). The readiness flags will indicate "ready" or "complete" upon the respective monitor(s) determining that the component or system is not malfunctioning or the monitor indicates a malfunction for the component or system after the requisite number of decisions necessary for determining MIL status has been fully executed, in accordance with Cal. Code Regs., tit. 13, § 1971.1(h)(4.1).
- aa. "Malfunction" means a circumstance where a vehicle or engine experiences a mechanical, chemical, or electrical problem, including as the result of damage or accident, that (1) renders the vehicle or engine inoperable; (2) presents a safety or environmental hazard if the vehicle or engine continues to be operated (such as an oil leak); or (3) causes an OBD event (for example, recording a pending fault code or illuminating the MIL), except for the following OBD events:

- (a) OBD events during OBD demonstration testing; and (b) false detection or MIL illumination due to dynamometer simulation testing, unless such false detection or MIL illumination causes a default action or default strategy that changes the emission performance behavior.
- bb. "MIL" means the malfunction indicator light of the OBD system outlined in Cal. Code Regs., tit. 13, § 1971.1 that illuminates to notify the vehicle operator of detected malfunctions.
- cc. "Model Year" or "MY" has the meaning set forth in 40 C.F.R. § 86.082-2.
- dd. "Model Year 2014-2016 Recall Group" means Subject Vehicles and Equivalent Vehicles equipped with any of the following Engine Families EVPTH10.8G01, EVPTH12.8G01, FVPTH10.8G01, FVPTH12.8G01, GVPTH10.8G01, or GVPTH12.8G01.
- ee. "Modified Vehicle" means an Eligible Vehicle or an Equivalent Vehicle that received an Approved Emission Modification.
- ff. "Month" means a calendar month.
- gg. "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.
- hh. "On-Board Diagnostic System" or "OBD System" or "OBD" means all hardware, components, parts, sensors, subassemblies, software, AECDS, calibrations, and other elements of design that collectively constitute the system for monitoring all systems and components that must be monitored pursuant to the version of Cal. Code Regs., tit. 13, § 1971.1 applicable at the time of certification for the particular Model Year of a Subject Engine, for the purpose of identifying and detecting malfunctions of such monitored systems and components, and for alerting the driver of such potential malfunctions by illuminating the MIL.
- ii. "OBD Cluster(s)" means the groupings of the Subject Engines by Model Year and Engine Family as follows numerically:

1. "OBD Cluster 1" means engines from the following 2014 through 2016 Model Year Engine Families: EVPTH10.8G01, FVPTH10.8G01, and GVPTH10.8G01.
 2. "OBD Cluster 2" means engines from the following 2014 through 2016 Model Year Engine Families: EVPTH12.8G01, FVPTH12.8G01, and GVPTH12.8G01.
 3. "OBD Cluster 3" means engines from the following 2014 through 2016 Model Year Engine Families: EVPTH16.1G01, FVPTH16.1G01, and GVPTH16.1G01.
 4. "OBD Cluster 4" means engines from the following 2013 Model Year Engine Families: DVPTH10.8S01, DVPTH12.8S01, and DVPTH16.1S01.
- jj. "OBD Infrequent Regeneration Adjustment Factor" or "OBD IRAF" means the additive or upward adjustment factor for each pollutant used to account for increased emissions caused by periodic regeneration of any aftertreatment device or strategies activated for monitoring faulty components of the control system in order to adjust the emissions results used to determine the malfunction criterion for monitors that are required to indicate a malfunction before emissions exceed the applicable emission threshold.
- kk. "OBD Interim Report" means a report containing the details identified in Appendix A for each OBD cluster as described in Appendix B to this Settlement Agreement.
- ll. "OBD Noncompliance" means any noncompliance with any requirement of Cal. Code Regs., tit. 13, § 1971.1 applicable to a Subject Engine at the time it was granted an Executive Order, and includes Pre-Approved OBD Noncompliances, Additional Reported OBD Noncompliances, Unreported OBD Noncompliances, OBD Noncompliances Resulting in Mandatory Recall, and OBD Noncompliances with Inspection and Maintenance (Clean Truck Check).
- mm. "OBD Noncompliances Resulting in Mandatory Recall" means any and all noncompliances listed in the applicable version of Cal. Code

Regs., tit. 13, § 1971.5(d)(3) (except Cal. Code Regs., tit. 13, § 1971.5(d)(3)(A)(vii)).

- nn. "OBD Noncompliances with Inspection and Maintenance (Clean Truck Check)" means any and all noncompliances listed in the applicable version of Cal. Code Regs., tit. 13, § 1971.5(b)(6)(C)(ii).
- oo. "OBD Test Protocol" means the protocol for demonstrating OBD compliance as identified in Appendix A to this Settlement Agreement.
- pp. "Operable" means able to be driven under a vehicle's own engine power.
- qq. "Paragraph" means a portion of this Settlement Agreement identified by an Arabic numeral.
- rr. "Pre-Approved OBD Noncompliances" means any and all OBD Noncompliances described in Appendix C of this Settlement Agreement and OBD Noncompliances present in OBD Clusters 1 and 2.
- ss. "Product Engine Vehicle Evaluation" or "PEVE" means testing conducted in accordance with the requirements of Cal. Code Regs., tit. 13, § 1971.1(l), as modified by Appendix A of this Settlement Agreement.
- tt. "PEVE L3 Testing Report" means the report and all required content, as specified in Appendix A to this Settlement Agreement.
- uu. "Quality Assurance/Quality Control Reports" or "QA/QC Reports" means records describing actions, measures, and steps taken to ensure the reliability and validation of the data and testing conducted under Appendix A of this Settlement Agreement. For OBD testing conducted pursuant to Appendix A of this Settlement Agreement, the QA/QC Reports will document compliance with 40 C.F.R. Part 1065.

- vv. "Records" means all non-identical copies of all documents, records, reports, or other information (including documents, records, or other information in electronic form).
- ww. "Section" means a portion of this Settlement Agreement identified by a Roman numeral.
- xx. "Settlement Agreement" means this settlement agreement.
- yy. "Subject Engine" is any of the engines identified as part of the engine families listed in Appendix E to the Settlement Agreement that Volvo sold or offered for sale (or introduced or delivered for introduction into commerce) when new, including as part of a Subject Vehicle, in California and that Volvo purported to have been covered by the Engine Families listed in Appendix E of the Settlement Agreement.
- zz. "Subject Vehicle" means any new vehicle, as defined by Health and Safety Code § 39059, powered by a Subject Engine that Volvo sold or offered for sale (or introduced or delivered for introduction into commerce) in California.
- aaa. "Submission" means any plan, report, application, or other item that is required to be submitted for approval pursuant to this Settlement Agreement.
- bbb. "Unreported OBD Noncompliances" means any and all OBD Noncompliances that were not disclosed by Volvo to CARB and that is not (1) a Pre-Approved OBD Noncompliance; (2) an Additional Reported OBD Noncompliance; (3) an OBD Noncompliance Resulting in Mandatory Recall; or (4) an OBD Noncompliance with Inspection and Maintenance (Clean Truck Check).
- ccc. "Vehicle Identification Number" or "VIN" means vehicle identification number, as defined in 49 C.F.R. § 565.12.
- ddd. "Volvo" means Volvo Group North America, LLC, a company organized under the laws of the State of Delaware and authorized to conduct business in the State of California.

- eee. "Volvo Recall Website" means a website created and maintained by Volvo that makes information regarding any Approved Emission Modification available online on a publicly available website for the Model Year 2014-2016 Recall Group that provides vehicle-specific information searchable by VIN.

III. PROHIBITIONS

- 6. Under California Health and Safety Code § 43017, Volvo and Volvo's officers, agents, employees, and attorneys, and all other persons in active concert or participation with any of them, who receive actual notice of this Settlement Agreement, whether acting directly or indirectly, are permanently prohibited from:
 - a. Introducing into commerce, importing, delivering, purchasing, acquiring, receiving, distributing, offering for sale, selling, offering for lease, leasing, offering for rent, renting, or assisting others in introducing into commerce, importing, delivering, purchasing, acquiring, receiving, distributing, offering for sale, selling, offering for lease, leasing, offering for rent, or renting in California any Modified Vehicle that contains an undisclosed AECD, or any Modified Vehicle that otherwise fails to comply with California Health and Safety Code §§ 43008.6, 43016, 43106, 43151, 43211, and 43212; and Cal. Code Regs., tit. 13, §§ 1956.8, 1965, and 1971.1;
 - b. Performing undisclosed and/or unapproved Field Fixes on any Subject Engine, on any Equivalent Vehicle, or otherwise violating California Vehicle Code § 27156 with respect to such vehicles;
 - c. Failing to promptly notify CARB when Volvo has reason to believe that Volvo has installed an undisclosed AECD in a Modified Vehicle, at any time, that Volvo introduced into commerce, imported, delivered, purchased, acquired, received, sold or offered for sale, leased or offered for lease, rented or offered for rent, or distributed in California; and
 - d. Installing prohibited Defeat Devices in a Modified Vehicle, at any time, that was introduced into commerce, imported, delivered, purchased, acquired, received, sold or offered for sale, leased or

offered for lease, rented or offered for rent, or distributed by Volvo in California.

7. Nothing in this Settlement Agreement alters the requirements of federal or state law to the extent they offer greater protection to the environment.

IV. PAYMENT REQUIREMENTS AND INSTRUCTIONS

8. Civil Penalty Payment. Within 30 Days of the Effective Date, Volvo shall pay to the "California Air Resources Board" the sum of **\$12,500,000.00** ("Penalty Payment"). Upon receipt, and pursuant to Health and Safety Code § 43015(a), CARB shall immediately deposit this sum into the Air Pollution Control Fund for the purpose of enhancing CARB's mobile source emissions control program through additional certification review, mitigation, in-use evaluation, real-world testing, costs, enforcement actions, and other CARB activities related to the control of air pollution.
9. Cost Payment. Within 30 Days of the Effective Date, Volvo shall pay to the "California Air Resources Board" the sum of **\$5,000,000.00** for the purpose of reimbursing CARB for costs incurred with investigation and representation and costs associated with the implementation, monitoring, and enforcement of this Settlement Agreement and its required mitigation projects, including evaluation, cost recovery, testing, equipment, consultants, recall evaluation, representation, staffing, administrative costs associated with implementation and oversight of the Mitigation Project Investment, and other associated costs (the "CARB Cost Payment"). Upon receipt, and pursuant to Health and Safety Code § 43015(a), CARB shall immediately deposit this sum into the Air Pollution Control Fund for the purpose of reimbursing CARB implementation costs, including for mitigation project implementation.
10. Mitigation Payment. Within 30 Days of the Effective Date, Volvo shall pay to the "California Air Resources Board" the sum of **\$71,000,000.00** to be used to fund mitigation actions or projects that reduce NOx emissions in California (the "Mitigation Payment"). Upon receipt, and pursuant to Health and Safety Code § 43015(a), CARB shall immediately deposit this sum into the Air Pollution Control Fund for the purpose of reducing NOx emissions in California through CARB mitigation programs.

11. Mitigation Project Investment. Volvo shall invest **\$108,000,000.00** in future, emissions-reducing mitigation projects (“Mitigation Project Investment”). The Mitigation Project Investment aims to reduce NOx emissions in California.
- a. Volvo shall submit a proposed Mitigation Project Investment Plan (“Mitigation Plan”) for the Mitigation Project Investment to CARB within one year of the Effective Date for CARB’s review and approval. CARB shall approve the proposed Mitigation Plan within 90 Days of Volvo’s submission(s). If CARB does not approve the plan within 90 Days, it shall be deemed disapproved by CARB. Upon each disapproval, Volvo shall resubmit the Mitigation Plan within 90 Days, unless otherwise agreed to in writing by both parties.
 - b. Volvo shall respond to all questions or comments regarding the submitted Mitigation Plan from CARB within 30 Days of receipt of those questions or comments unless extended in writing by both parties. If Volvo fails to respond to CARB’s questions or comments within the time period specified in this Paragraph, the proposed Mitigation Plan shall be considered disapproved by CARB. After Volvo submits its proposed plan and CARB and Volvo begin engaging in question and answer about the plan, CARB’s 90-Day approval timeline shall be tolled until question and answer is exhausted, not to exceed six months from the date of Volvo’s submission of the Mitigation Plan unless otherwise agreed to in writing by CARB and Volvo.
 - c. CARB shall not unreasonably withhold or delay approval of the proposed Mitigation Plan. For the purposes of this Paragraph 11, unreasonably withhold or delay means without articulating a reason that is not arbitrary or capricious for doing so and without identifying additional specific and practicable actions or information necessary to obtain such approval.
 - d. In accordance with, and except as otherwise provided in the approved Mitigation Plan, Volvo shall pay CARB the remaining unexpended balance of the Mitigation Project Investment, if any, five (5) years after the date that CARB approves the Mitigation Plan. Any remaining balance paid to CARB shall be deposited into the Air

Pollution Control Fund for the purpose of reducing NOx emissions in California through CARB mitigation programs.

12. If Volvo fails to pay the Penalty Payment, Cost Payment, or Mitigation Payment and/or any portion of the Mitigation Project Investment that remains unexpended five (5) years after the date that CARB approves the Mitigation Plan to CARB according to the terms of this Settlement Agreement or after a subsequent deadline for expenditure or payment as specified in the approved Mitigation Plan, in addition to stipulated penalties identified in Section VIII (Stipulated Penalty Payments), Volvo shall be liable for interest on any and all unpaid payments, accruing as of the date payment became due and continuing until payment has been made in full. Except as specified in the approved Mitigation Plan, interest shall be computed at a rate of 10% per annum as specified in California Code of Civil Procedure § 685.010.
13. Payments required to be made to the "California Air Resources Board" under this Settlement Agreement shall be issued by check, credit card, wire transfer, or portal using instructions provided separately by CARB in a Payment Transmittal Form. Volvo is responsible for all payment processing fees. Payments shall be accompanied by a Payment Transmittal Form, which CARB will provide to the addressees listed in Section XIV (Notices and Submissions) no later than 14 Days after the Effective Date to ensure proper payment submission. At the time payment is made, Volvo shall provide CARB with proof of payment including a copy of the Payment Transmittal Form to the CARB email address provided in Section XIV (Notices and Submissions).
14. Should payment instructions change, CARB will provide notice to Volvo in accordance with Section XIV (Notices and Submissions).
15. Volvo's requirement to make any payment to CARB under this Settlement Agreement will be extended by each Day of CARB's delay in providing the Payment Transmittal Form with requisite payment instructions.

V. COMPLIANCE REQUIREMENTS

16. Establishment and Maintenance of Approved Emission Modification and Extended Warranty Program.
 - a. As provided in this Section V, Volvo shall establish and maintain an Approved Emission Modification Program for the Model Year 2014-

2016 Eligible Vehicles, which requires Volvo to notify Eligible Owners and Eligible Lessees in accordance with the voluntary recall provisions of Cal. Code Regs., tit.13, §§ 2111–2120 about the applicable Approved Emission Modification for their Eligible Vehicle and enables owners and lessees to obtain an Approved Emission Modification for their Eligible Vehicles.

- b. As described and provided by Paragraph 22, Volvo shall make the Approved Emission Modification available to all Eligible Owners and Eligible Lessees of Model Year 2014-2016 Eligible Vehicles at no cost. Volvo shall ensure that no consumer payment or release of any Eligible Owner's or Eligible Lessee's rights or claims shall be required in exchange for performing the Approved Emission Modification.
- c. Volvo shall establish and maintain an extended warranty program that is available at no cost, and shall ensure that no consumer payment or release of any rights or claims shall be required in exchange for providing the applicable warranty, as provided in Paragraphs 27 and 28 ("Extended Warranty Program").
- d. As provided in Paragraph 31, Volvo shall make information regarding the Approved Emission Modification and the Extended Warranty Program available online on a publicly available website that provides vehicle-specific information searchable by VIN.
- e. The requirements outlined in this Paragraph shall continue in full force and effect after termination of the Settlement Agreement.

17. Administrative Recall Process.

- a. Remedial Plans. Volvo shall submit to CARB the Remedial Plan for the Model Year 2014-2016 Recall Group pursuant to the voluntary recall provisions of Cal. Code Regs., tit.13, §§ 2111–2120. This Remedial Plan shall contain the information required in Cal. Code Regs., tit.13, §§ 2114(a)(1)–(9), and a certification in the same form as the one required for semi-annual reports under Paragraph 51.
- b. Proposed Emission Modifications. As part of each Remedial Plan, Volvo shall submit to CARB for approval proposed modifications,

alterations, repairs, corrections, adjustments, or other proposed changes (“Proposed Emission Modifications”) for the Model Year 2014-2016 Recall Group. If a Remedial Plan is approved, the incorporated Proposed Emission Modifications shall be known as the “Approved Emission Modification.”

- c. All Submissions, including Remedial Plans and Proposed Emission Modifications submitted pursuant to Paragraphs 17(a) and 17(b) above are subject to review and approval by CARB as specified in Cal. Code Regs., tit. 13, §§ 2111–2120.
 - d. Any disputes that arise in the administrative recall process shall be resolved in accordance with Cal. Code Regs., tit. 13, §§ 2111–2120.
18. Settlement Agreement Recall Requirements. The remaining Paragraphs in this Section, below, specify additional requirements for the recall process. To the extent these Settlement Agreement requirements conflict with the regulations, the Settlement Agreement requirements shall control.
 19. Submission Deadlines. Volvo shall submit a complete Remedial Plan required under Paragraph 17(a) as soon as possible, but no later than May 1, 2027. Volvo shall respond to all questions or comments regarding the submitted Remedial Plan from CARB within 30 Days of receipt of those questions or comments unless extended in writing by both parties. If Volvo fails to respond to CARB’s questions or comments within the time period specified in this Paragraph, the Remedial Plan shall be considered disapproved by CARB. If CARB transmits question(s) or comments to Volvo under this Paragraph 19, the 20-day response period contained in Cal. Code Regs., tit. 13, § 2113, subd. (a), shall be extended until the date that CARB confirms in writing that Volvo has provided CARB with complete responses to all of CARB’s question(s) and comments.
 20. Certification of No Defeat Devices or Undisclosed AECDs. Volvo shall certify in each Remedial Plan that the Proposed Emission Modification shall not contain any Defeat Device or undisclosed AECD.
 21. Deadline for Obtaining Approval of the Remedial Plan. In the administrative recall process, Volvo shall use its best efforts to obtain approval by CARB of the proposed Remedial Plan as soon as possible, including but not limited to, transmitting the proposed Remedial Plan in accordance with this Settlement

Agreement and providing timely and substantive responses to CARB's written inquiries related to the proposed Remedial Plan. CARB shall not unreasonably withhold or delay approval of the proposed Remedial Plan. For the purposes of this Paragraph 21, unreasonably withhold or delay means without articulating a reason that is not arbitrary or capricious for doing so and without identifying additional specific and practicable actions or information necessary to obtain such approval. In the case that the proposed Remedial Plan submitted pursuant to Paragraph 17(a) has not been approved by CARB by November 1, 2027, and to the extent CARB has not unreasonably withheld or delayed approval, Volvo shall be liable for stipulated penalties under Paragraph 58. If CARB rejects Volvo's proposed Remedial Plan three or more times and Volvo has timely submitted the Remedial Plan each time, CARB and Volvo, together, may extend in writing the approval time period required under this Paragraph 21. Upon each disapproval, Volvo shall resubmit the Remedial Plan within 45 Days, unless otherwise agreed to in writing by both parties.

22. Availability of Approved Emission Modification. Within 30 Days of approval of the Remedial Plan by CARB, Volvo shall make the Approved Emission Modification available to all Eligible Owners and Eligible Lessees of Eligible Vehicles at no cost, for eight years after the approval of the applicable Approved Emission Modification. As long as any parts (including software) necessary for the Approved Emission Modification are available after these time periods, Volvo shall continue to make the Approved Emission Modification available to Eligible Owners and Eligible Lessees. Volvo shall ensure that no consumer payment or release of any Eligible Owner's or Eligible Lessee's rights or claims shall be required in exchange for performing the Approved Emission Modification, including diagnostics services.
23. Volvo shall not state in any notices sent to Eligible Owners or Eligible Lessees of Eligible Vehicles that the Approved Emission Modification is required for Eligible Owners or Eligible Lessees to register their Eligible Vehicles with the California DMV. Volvo shall not take any action to prevent Eligible Owners or Eligible Lessees from registering their Eligible Vehicles in California based on the Eligible Owner's or Eligible Lessee's decision not to receive the Approved Emission Modification.
24. Grounds for Refusal to Apply the Modification to an Eligible Vehicle. If an Eligible Vehicle has been altered with the use of any aftermarket emissions-

related components, parts, or software or the removal of any original emissions-related components, parts, or software, and such alteration(s) are likely to negatively impact the performance and operation of the vehicle or emission control system with an Approved Emission Modification or substantially impede installation of an Approved Emission Modification, then Volvo shall not be required to install an Approved Emission Modification on the Eligible Vehicle until the owner or lessee of such vehicle, at his or her expense, has reversed the alteration(s) such that an Approved Emission Modification may be installed and not be substantially affected. Any such vehicle shall be considered an "Ineligible Vehicle" until the owner or lessee has completed such reversal.

25. Notice of Ineligibility. If an Eligible Vehicle or an Equivalent Vehicle is presented for an Approved Emission Modification and the vehicle is, in fact, an Ineligible Vehicle, in accordance with Paragraph 24, Volvo shall provide written notice to the owner or lessee that the vehicle is ineligible for an Approved Emission Modification and the alterations that would be necessary to render it an Eligible Vehicle or an Equivalent Vehicle.
26. Approved Emission Modification Program Rate. Within three years after CARB approves any Remedial Plan (the "Recall Target Deadline"), Volvo shall ensure the installation of the Approved Emission Modification in at least 85% of Eligible Vehicles in California (the "California Recall Target Rate").
 - a. To assess Volvo's progress toward and achievement of the California Recall Target Rates for an Approved Emission Modification, the number of California Credited Vehicles plus the number of Equivalent Vehicles that have received the Approved Emission Modification by the applicable Recall Target Deadline and were registered with the California DMV at the time they received the Approved Emission Modification, shall be divided by the total number of Eligible Vehicles, as determined by the number of such Eligible Vehicles registered with the California DMV on the Recall Target Deadline three years after the Emission Modification was approved by CARB.
27. Extended Warranty for Model Year 2014-2016 Recall Group. No later than the Effective Date, Volvo shall provide an Extended Warranty for each Eligible

Vehicle and Equivalent Vehicle in the Model Year 2014-2016 Recall Group that received the Approved Emission Modification.

- a. Extended Warranty Coverage for Model Year 2014-2016 Recall Group. The Extended Warranty for Model Year 2014-2016 Recall Group shall cover the parts listed in Appendix F to this Settlement Agreement subject to standard limitations about which Volvo must notify all owners and lessees of Model Year 2014-2016 Recall Group. Those limitations may set forth exclusions like accident, abuse, neglect, or installation of unexempted parts (as that term is described in Cal. Code Regs., tit. 13, § 2036(d)(10)). The Extended Warranty is also subject to any applicable existing warranty provisions covering the Model Year 2014-2016 Recall Group that will remain in effect during the Extended Warranty period specified in Appendix F. The Extended Warranty for Model Year 2014-2016 Recall Group shall cover the costs of all parts and labor needed to repair the items listed in Appendix F, including diagnostic services and OBD scans. Volvo shall not impose on consumers any fees or charges and shall pay any fees or charges imposed on consumers by Dealers related to the Extended Warranty service.
- b. Extended Warranty Period for Model Year 2014-2016 Recall Group. The warranty period for the Extended Warranty for Model Year 2014-2016 Recall Group is as provided in Appendix F, regardless of miles accumulated by the Model Year 2014-2016 Recall Group. For any Eligible Vehicle that receives the Approved Emission Modification after the Recall Target Deadline, the Extended Warranty period shall apply, but in no event shall the Extended Warranty period extend past December 31, 2035.

28. Other Warranty-Related Terms and Conditions.

- a. Before installing the Approved Emission Modification on an Eligible Vehicle or on an Equivalent Vehicle, Volvo may exclude from the Extended Warranty any part covered under the Extended Warranty that is illuminating the MIL at the time the Eligible Vehicle or Equivalent Vehicle is brought in for the Approved Emission Modification (the "problem part"). Volvo shall notify the Eligible

Owner or Eligible Lessee of the excluded Extended Warranty provision before installing the Approved Emission Modification, and allow the Eligible Owner or Eligible Lessee an opportunity to remedy the issue prior to installation of the Approved Emission Modification. If the Eligible Owner or Eligible Lessee elects to repair the problem part before the Approved Emission Modification is installed, the Extended Warranty shall apply and remain fully in effect once the Approved Emission Modification has been installed. Volvo shall not exclude any part from coverage under the Extended Warranty if an Eligible Vehicle or Equivalent Vehicle that previously illuminated the MIL for an Extended Warranty part is brought in for the Approved Emission Modification and that part is no longer illuminating the MIL.

- b. The extended warranties in Paragraphs 27(a) and 27(b) shall not modify, limit, or affect any state, local, or federal legal rights available to the Eligible Owners or Eligible Lessees. The warranties shall be subject to any remedies provided by state or federal laws, that provide consumers with protections, including without limitation any applicable "Lemon Law" protections, with respect to warranties.
- c. In no event shall warranty coverage under the Extended Warranty for Model Year 2014-2016 Recall Group be subject to service writers' discretion.
- d. Neither the Extended Warranty for Model Year 2014-2016 Recall Group, nor the installation of an Approved Emission Modification shall supersede or void any outstanding warranty.

29. Subsequent Emission Modification Prohibited Adjustments to Model Year 2014-2016 Recall Group. Volvo shall not participate in any service campaign to adjust or modify the Emission Control System in any Modified Vehicle in a manner that may impair, decrease, or degrade the emission control performance of the Model Year 2014-2016 Recall Group's Emission Control System, unless reviewed and approved by CARB, or to install a configuration or calibration that contains a Defeat Device or an undisclosed AECD. Nothing in this Paragraph is intended to restrict Volvo's ability to perform normal course repairs or to service engines.

30. Sale Restrictions.

- a. After the date of approval of an applicable Approved Emission Modification, Volvo shall provide written instruction to its Dealers not to sell or cause to be sold, resell or cause to be resold, lease or cause to be leased, import, or otherwise introduce into commerce, any Eligible Vehicle, unless it has received the applicable Approved Emission Modification.
- b. No later than 45 Days from the date of approval of an Approved Emission Modification, Volvo shall use best efforts to ensure that its Dealers do not sell or cause to be sold, resell or cause to be resold, lease or cause to be leased, or introduce into commerce, any Eligible Vehicle, unless the Eligible Vehicle has received an applicable Approved Emission Modification.

31. Online Access to Information.

- a. By no later than 30 Days from the date of approval of an applicable Approved Emission Modification, Volvo will make information regarding any Approved Emission Modification available online on a publicly available website for the Model Year 2014-2016 Recall Group that provides vehicle-specific information searchable by VIN ("Volvo Recall Website"). Volvo shall ensure that the Volvo Recall Website contains updated information regarding (i) vehicle-specific information about the availability of an Approved Emission Modification; (ii) vehicle-specific status indication on whether or not the applicable Approved Emission Modification has been installed; (iii) a description of the Extended Warranty for Modified Vehicles; and (iv) a viewable and downloadable copy of the pertinent disclosures provided to consumers as part of the administrative recall process.
- b. By no later than 30 Days after the Effective Date, Volvo shall ensure that the Volvo Recall Website contains updated information about the Extended Warranty for the Model Year 2014-2016 Recall Group, including vehicle-specific information by VIN concerning the availability and coverage of the Extended Warranty for the Model Year 2014-2016 Recall Group.

- c. For at least 10 calendar years after the Effective Date, Volvo shall ensure that updated information referenced in Paragraphs 31(a) and 31(b) above is available on the Volvo Recall Website or on a similarly accessible website that shall be accessible free of charge to owners, lessees, and prospective purchasers.
32. Continued Compliance. Except as otherwise stated in this Settlement Agreement, during the regulatory useful life of the Subject Engines, the Subject Engines remain subject to, and Volvo shall comply with: (1) all CARB requirements for in-use testing under Cal. Code Regs., tit. 13, §§ 2110-2140; (2) OBD requirements pursuant to Cal. Code Regs., tit. 13, § 1971.5 (OBD enforcement provisions); and (3) California Emissions Warranty and Information Reporting requirements under Cal. Code Regs., tit. 13, §§ 2141-2146. CARB reserves all rights and authorities to impose consequences if Volvo fails to comply with these testing and reporting requirements, including if such testing demonstrates that the Subject Engines exceed any applicable emission limit, subject to Section XIII (Effect of Settlement/Reservation of Rights).
33. Except as otherwise expressly stated herein, the applicable regulatory requirements (i.e., administrative processes such as vehicle recall) shall apply unless an alternative approach is approved by CARB.
34. Except for any replacement engines—as defined in 40 C.F.R. § 1068.240—that may be expressly allowed, Volvo shall not sell or cause to be sold, resell or cause to be resold, or lease or cause to be leased, any Subject Vehicle in Volvo’s possession, or obtained by Volvo as a trade-in or lease termination until:
 - a. Volvo performs any Approved Emission Modification on any such Subject Vehicle for which it is eligible; and
 - b. Volvo executes all emission-related service actions and repairs required to bring the engine into compliance with this Settlement Agreement, applies any and all other recalls concerning the Subject Vehicles, and executes any other required service actions.

VI. ON-BOARD DIAGNOSTIC DEMONSTRATION

35. 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 CARB.

36. OBD Demonstration Testing. Volvo shall test select Subject Engines according to the Protocol for OBD Demonstration Assessment of Approved Emission Modifications ("OBD Test Protocol") as specified in Appendix A of this Settlement Agreement.
37. OBD Clusters. For purposes of this Settlement Agreement, OBD demonstration testing shall be classified in two clusters according to Engine Family and Model Year, as follows:
- a. OBD Cluster 1 as defined in Section II, Paragraph ii(1).
 - b. OBD Cluster 2 as defined in Section II, Paragraph ii(2).
38. OBD Diagnostics. Should an Eligible Vehicle or an Equivalent Vehicle that received the Approved Emission Modification be brought into one of Volvo's facilities for failure of an emission inspection or Inspection and Maintenance (Clean Truck Check) test, Volvo shall make OBD diagnostics testing available to all Eligible Owners and Eligible Lessees at no cost if such failure was due to the Approved Emission Modification.
39. Clean Truck Check Failures. Volvo shall submit to CARB for review and approval a remedial plan in accordance with Cal. Code Regs., tit. 13, § 1971.5(e) to address each OBD Noncompliance for OBD Clusters 1, 2, 3, and 4 that results in a failure under the Clean Truck Check (i.e., electronic control unit failure to communicate with test equipment, inability to clear fault codes, etc.), and shall recall each affected Subject Vehicle, or Equivalent Vehicle that received the Emission Modification, consistent with Cal. Code Regs., tit. 13, § 1971.5(e) and this Settlement Agreement. Volvo shall not be subject to the OBD recall provisions if an Eligible Vehicle or Equivalent Vehicle fails or is otherwise not able to complete the Inspection and Maintenance program, pursuant to Cal. Code Regs., tit. 13, § 1971.5(e), solely because insufficient miles have been accumulated on the vehicle to clear any fault codes or solely because insufficient miles have been accumulated on the vehicle to set the Inspection and Maintenance Readiness Flags to "ready" or "complete" following application of the Approved Emission Modification. Volvo shall not be required to conduct a recall under this Paragraph 39 if Volvo can demonstrate the failures are the result of improper maintenance of the Subject Vehicle or Equivalent Vehicle and/or the alteration of Subject Vehicle or Equivalent Vehicle with the use of any after-market emissions-related components, parts, or software or the removal of

any emissions-related components, parts, or software, and such improper maintenance and/or alteration(s) are likely to substantially affect the ability of the vehicle to pass the Clean Truck Check. The requirements outlined in this Paragraph 39 shall continue in full force and effect after termination of the Settlement Agreement.

VII. REPORTING REQUIREMENTS

40. Reporting. The reporting requirements of this Settlement Agreement do not relieve Volvo of any reporting obligations required by the Clean Air Act or implementing regulations, or by any other federal, state, or local law, regulation, permit, or other requirement. Volvo shall submit the reports as specified in this Section VII.
41. Settlement Agreement Compliance Reports. Volvo shall document compliance with the requirements of this Settlement Agreement in Semi-Annual Reports described in this Section, and in certain other required reports referenced in other Sections of this Settlement Agreement. Unless otherwise provided, all reports in this Section shall be submitted simultaneously to CARB, and the Office of the California Attorney General.
42. Timing of Semi-Annual Reports. Unless otherwise specified in this Settlement Agreement or the Parties otherwise agree in writing:
 - a. General Timing. For Semi-Annual Reports required under this Settlement Agreement, Volvo shall submit each Report within one month after the end of the applicable semi-annual reporting period (i.e., by January 31 for the reporting period from the preceding July to December and by July 31 for the reporting period from the preceding January to June).
 - b. Timing for First Semi-Annual Report. If this Settlement Agreement's Effective Date is at least 45 Days before the end of a semi-annual period, Volvo's Semi-Annual Report for the first partial reporting period shall be due by the last day of the month following the end of that reporting period. For example, if the Effective Date is September 2, the first Report shall be due on January 31 and shall cover the period from September 2 to December 31. If this Settlement Agreement's Effective Date is less than 45 Days before the end of a

semi-annual period, Volvo's first Semi-Annual Report shall not be due until the last day of the month following the end of the next semi-annual period. For example, if the Effective Date is December 3, the first Report shall be due on July 31 and shall cover the period from December 3 to June 30.

- c. Continued Submission of Semi-Annual Reports. Volvo shall continue submitting Semi-Annual Reports under this Settlement Agreement until the termination date.

43. Contents of Semi-Annual Reports. Unless otherwise provided herein, Volvo shall submit a Semi-Annual Report to CARB and the Office of the California Attorney General that includes the content specified in the subparagraphs below:

- a. Payments.
 - i. Each Semi-Annual Report shall provide the status of all required payments identified in Section IV (Payment Requirements and Instructions) and any Stipulated Penalties assessed under Section VIII (Stipulated Penalty Payments). For the Mitigation Project Investment, Volvo shall include the dollars spent during the reporting period and cumulatively through the reporting period on the investment, what the dollars were spent on, and what those dollars procured. For the Mitigation Project Investment, Volvo shall submit a report as described in the Mitigation Plan that is approved by CARB.
- b. Approved Emission Modification Program.
 - ii. Each Semi-Annual Report shall provide the status of the Approved Emission Modification Program and a written description of any problems encountered in implementing the Approved Emission Modification Program since the last semi-annual reporting period and any solutions implemented or planned.
 - iii. Each Semi-Annual Report shall provide a narrative description and quantitative assessment of progress made toward meeting the California Recall Target Rates for the Eligible Vehicles during the semi-annual reporting period.

- iv. Each Semi-Annual Report shall be submitted with an Excel spreadsheet listing each Credited Vehicle (identified by VIN) that counts toward achievement of the California Recall Target Rates.
 - c. Sale Restrictions. Each Semi-Annual Report shall provide a written description of any significant problems encountered in satisfying the sale restriction requirements imposed by Paragraph 30 since the last semi-annual reporting period and any solutions implemented or planned.
 - d. Extended Warranty Program. Each Semi-Annual Report shall provide the status of the Extended Warranty Program and a written description of any significant problems encountered in implementing the Extended Warranty Programs since the last semi-annual reporting period and any solutions implemented or planned.
 - e. Ineligible Vehicles Registered with California DMV. Each Semi-Annual Report shall provide a list of Ineligible Vehicles, including VIN numbers, that were registered with the California DMV at the time that Volvo generated an ineligibility notice and a copy of every such ineligibility notice generated by Volvo.
44. Online Access to Information. Each Semi-Annual Report shall provide the status of the Volvo Recall Website, how often it is updated, by whom, and a written description of any significant problems encountered in implementing the requirements regarding online access to information under Paragraph 31 since the last semi-annual reporting period and any solutions implemented or planned.
45. Summary of Noncompliance. In addition to any narrative descriptions, each Semi-Annual Report shall include an Excel spreadsheet identifying any noncompliance with (i.e., violation of) the requirements of this Settlement Agreement that occurred during the preceding six months. For each such noncompliance, the spreadsheet shall identify (i) the date of the noncompliance; (ii) the Settlement Agreement requirement violated (including applicable Section and Paragraph number(s)); (iii) a description of the noncompliance; (iv) the duration of the noncompliance; (v) an explanation of the violation's likely cause; and (vi) a description of the steps taken or to be taken to prevent, remedy, or minimize the violation. If no violations occurred during the reporting

period, Volvo shall submit a statement that no violations occurred. If the cause of a violation cannot be fully explained at the time the report is due, Volvo shall so state in the report. Volvo shall investigate the cause of the violation and shall then submit an amendment to the report, including an explanation of the cause of the violation, within 30 Days of the day Volvo becomes aware of the cause of the violation, with further updates as necessary. Nothing in this Section relieves Volvo of its obligation to provide the notice required by Section XI (Force Majeure).

46. Submission Method. Volvo shall submit each Semi-Annual Report, including any relevant documentation, and each other report required by this Settlement Agreement to CARB and the Office of the California Attorney General in accordance with Section XIV (Notices and Submissions).
47. Approved Emission Modification OBD Demonstration Reports. Volvo shall submit or resubmit a complete Approved Emission Modification OBD Demonstration Report as required under Paragraph 4 of Appendix A of this Settlement Agreement, which shall include any required content and completion of any required testing in accordance therewith.
48. PEVE L3 Testing Report. Volvo shall submit or resubmit a complete PEVE L3 Testing Report as required under Paragraph 4 of Appendix A of this Settlement Agreement, which shall include any required content and completion of any required testing in accordance therewith.
49. OBD Interim Report. Volvo shall submit or resubmit a complete OBD Interim Report as required under Paragraph 3 of Appendix A of this Settlement Agreement, which shall include any required content and completion of any required testing in accordance therewith.
50. OBD Noncompliance Report. Volvo shall submit a report that summarizes any and all OBD Noncompliances for OBD Clusters 1 and 2 identified by Volvo within one Month after the end of the applicable semi-annual reporting period (i.e., by January 31 for the reporting period from the preceding July to December and by July 31 for the reporting period from the preceding January to June).

51. Required Certification.

- a. Each written report submitted by Volvo under this Section shall be signed by an official of the submitting party and include the following certification.

I certify under penalty of perjury that this report was prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations of law.

- b. Volvo agrees that the certification required by Paragraph 51(a) is subject to California Penal Code §§ 115, 118, and 132.
- c. This certification requirement does not apply to emergency or similar notifications where compliance would be impractical.

52. Special Reporting Requirements. If at any time Volvo reasonably believes any event affecting Volvo's performance under this Settlement Agreement may pose an immediate threat to the public health or welfare or the environment, Volvo shall notify CARB by telephone and email as soon as possible, but no later than 48 hours after Volvo first reasonably believes the violation or event may pose an immediate threat to the public health or welfare or the environment.

53. The reporting requirements of this Settlement Agreement do not relieve Volvo of any reporting obligations required by any federal, state, or local law, regulation, permit, or other requirement.

54. Any information provided pursuant to this Settlement Agreement may be used by CARB in any proceeding to enforce the provisions of this Settlement Agreement and as otherwise permitted by law.

VIII. STIPULATED PENALTY PAYMENTS

55. Volvo shall be liable to CARB for stipulated penalties for violations of this Settlement Agreement as specified in this Section, unless excused under Section XI (Force Majeure). A violation includes failing to perform any obligation required by the terms of this Settlement Agreement, including any work plan or schedule approved under this Settlement Agreement, according to all applicable requirements of this Settlement Agreement and within the specified time schedules established by or approved under this Settlement Agreement.
56. CARB shall deposit any stipulated penalties and any interest accrued thereon identified in this Section VIII (Stipulated Penalty Payments) into the Air Pollution Control Fund for the purpose of enhancing CARB’s mobile source emissions control program through additional certification review, in-use evaluation, real-world testing, enforcement actions, costs, and other CARB activities related to the control of air pollution.
57. Failure to Submit Remedial Plan(s). If Volvo fails to submit to CARB a Remedial Plan for a Proposed Emission Modification by the deadline in Paragraph 19, Volvo shall pay the following stipulated penalties per Day for each Day that such Remedial Plan submission is late:

<u>Penalty Per Day</u>	<u>Period of Noncompliance</u>
\$4,000	1st through 14th Day
\$10,000	15th through 30th Day
\$20,000	31st Day and beyond

58. Failure to Obtain an Approved Emission Modification. If Volvo fails to obtain an Approved Emission Modification by the deadline in Paragraph 21, Volvo shall pay a stipulated penalty of \$10,000,000. On the date Volvo pays this penalty, stipulated penalties related to Volvo’s obligations to submit a Proposed Emission Modification for approval, or implement an Approved Emission Modification, shall no longer continue to accrue, including the penalties described in Paragraphs 57 (Failure to Submit Remedial Plan(s)), 59 (Failure to Make Available Approved Emission Modification), and 62 (Failure to Meet California Recall Target Rate). Nothing in the previous sentence relieves Volvo of the obligation to pay any stipulated penalties that have accrued up to the date of

payment of the stipulated penalty required by this Paragraph 58 or any stipulated penalties for noncompliance with other provisions of the Settlement Agreement not specifically listed in the previous sentence.

59. Failure to Make Available Approved Emission Modification. If Volvo fails to comply with Paragraph 22 (Availability of Approved Emission Modification), Volvo shall pay the following stipulated penalties per Day for which the Approved Emission Modification was unavailable for the Model Year 2014-2016 Recall Group:

<u>Penalty Per Day</u>	<u>Period of Noncompliance</u>
\$4,000	1st through 14th Day
\$10,000	15th through 30th Day
\$20,000	31st Day and beyond

60. Failure to Restrict Sales. Volvo shall pay stipulated penalties of \$25,000 per affected Subject Vehicle for any violation of the sale restrictions specified by Paragraph 30.

61. Failure to Establish and Maintain Extended Warranty Programs.

- a. If Volvo fails to ensure the establishment and maintenance of the Extended Warranty Programs as required by Paragraphs 27 and 28 (and Appendix F), Volvo shall pay stipulated penalties for each Day on which the applicable Extended Warranty Program should have been offered and maintained but was not, through termination of this Settlement Agreement under Section XVI (Modification), as follows:

<u>Penalty Per Day</u>	<u>Period of Noncompliance</u>
\$4,000	1st through 14th Day
\$10,000	15th through 30th Day
\$20,000	31st Day and beyond

- b. In addition to paying these stipulated penalties, Volvo shall reimburse any affected Eligible Owner or Eligible Lessee any amount

paid by the Eligible Owner or the Eligible Lessee to Volvo or their Dealers because of a failure to honor an applicable Extended Warranty.

62. Failure to Meet California Recall Target Rate.

- a. If Volvo fails to achieve an 85% California Recall Target Rate for the Eligible Vehicles by the applicable Recall Target Deadline, Volvo shall pay CARB a stipulated penalty of: \$5,000 for each Eligible Vehicle that falls short of achieving the 85% California Recall Target Rate.
- b. In calculating any payment under this Paragraph, the California Recall Target Rate shall be rounded to the nearest percentage point. The calculated percentage should first be rounded to two significant digits to the right of the decimal point. Then: (i) if the fractional portion of the percentage is .50 or more, round up (so 83.50% rounds to 84%); and (ii) if the fractional portion of the percentage is .49 or below, round down (so 83.49% rounds to 83%).

63. Failure to Comply with Prohibition on Defeat Devices. If Volvo installs a Defeat Device in any Subject Vehicle after the Effective Date, Volvo shall pay a stipulated penalty of \$40,000,000.00 per Defeat Device per Engine Family.

64. Failure to Disclose AECDs. If a Proposed Emission Modification or Approved Emission Modification includes an AECD that Volvo has not listed and described in the proposed Remedial Plan submitted to CARB, Volvo shall pay a stipulated penalty of \$250,000 per undisclosed AECD that reduces the effectiveness of the Emission Control System under conditions which may reasonably be expected to be encountered in normal vehicle operation and use, per Engine Family.

65. Failure to Submit Reports. If Volvo fails to submit a report or information as required by Section VII (Reporting Requirements), Volvo shall pay stipulated penalties for each Day of noncompliance, as follows:

<u>Penalty Per Day</u>	<u>Period of Noncompliance</u>
\$2,000	1st through 14th Day
\$5,000	15th through 30th Day

\$10,000

31st Day and beyond

66. Failure to Submit Information. If Volvo fails to provide CARB with information or other items covered by Section IX (Information Collection and Retention), within 45 Days of a request by CARB, Volvo shall pay stipulated penalties for each Day of noncompliance, as follows:

Penalty Per Day

Period of Noncompliance

\$2,000

1st through 14th Day

\$5,000

15th through 30th Day

\$10,000

31st Day and beyond

67. False Statements. Volvo shall pay a stipulated penalty of \$1,000,000 for each report or Submission required to be submitted pursuant to this Settlement Agreement that contains a knowingly false, fictitious, or fraudulent statement or representation of material fact.

68. Stipulated Penalties for Late Civil Penalty, Cost, Mitigation Payment, Mitigation Program Investment, or Stipulated Penalties owed. If Volvo fails to pay the Penalty Payment, Cost Payment, Mitigation Payment, Mitigation Program Investment, or any Stipulated Penalties assessed when due, then Volvo shall pay stipulated penalties for each Day of noncompliance, as follows:

Penalty Per Day

Period of Noncompliance

\$20,000

1st through 30th Day

\$40,000

31st through 45th Day

\$80,000

46th Day and beyond

69. Failure to Perform OBD Demonstration Testing. If Volvo fails to perform OBD Demonstration Testing on OBD Clusters 1 and/or 2 or improperly test, improperly select engines or vehicles, or fail to provide data in accordance with Appendix A of this Settlement Agreement, Volvo shall pay the following stipulated penalties for each Day of noncompliance, as follows:

<u>Penalty per Day</u>	<u>Period of Noncompliance</u>
\$ 10,000	1st through 14th Day
\$ 20,000	15th through 30th Day
\$ 30,000	31st Day and beyond

70. Pre-Approved OBD Noncompliances. Pre-Approved OBD Noncompliances include those specified in Appendix C to this Settlement Agreement and no stipulated penalties are owed.
71. Additional Reported OBD Noncompliances. Until 60 Days after submission of the Approved Emission Modification OBD Demonstration Report or PEVE L3 Testing Report, if Volvo reports any OBD Noncompliance for OBD Clusters 1 and/or 2 that was not a Pre-Approved OBD Noncompliance listed in Appendix C of this Settlement Agreement using Appendix D within the same OBD Cluster(s), including as part of the reports required under Section VII, Volvo shall pay the following stipulated penalties for each cluster, as follows:

Penalty per Cluster

\$ 81,600 per OBD Noncompliance for OBD Cluster 1

\$ 1,192,650 per OBD Noncompliance for OBD Cluster 2

For avoidance of doubt, this Paragraph 71 does not apply to Unreported OBD Noncompliances, OBD Noncompliances Resulting in Mandatory Recall or OBD Noncompliances with Inspection and Maintenance (Clean Truck Check).

72. Unreported OBD Noncompliances. If CARB determines that one or more engines in Clusters 1 and/or 2 fail to comply with the OBD requirements in the applicable version of Cal. Code Regs., tit. 13, § 1971.1 and Volvo did not disclose such failure to comply in the Approved Emission Modification OBD Demonstration Report or PEVE L3 Testing Report covering an OBD Cluster(s), and if such failure is not a Pre-Approved OBD Noncompliance or Additional Reported OBD Noncompliance, Volvo shall pay the following stipulated penalties for each cluster, as follows:

Penalty per Cluster

\$ 108,800 per OBD Noncompliance for OBD Cluster 1

\$ 1,590,200 per OBD Noncompliance for OBD Cluster 2

For avoidance of doubt, this Paragraph 72 does not apply to Additional Reported Noncompliances, OBD Noncompliances Resulting in Mandatory Recall, or OBD Noncompliances with Inspection and Maintenance (Clean Truck Check).

73. OBD Noncompliances Resulting in Mandatory Recall. If one or more engines in Clusters 1 and/or 2 has an OBD Noncompliance Resulting in a Mandatory Recall, for each and every OBD Noncompliance resulting in a mandatory recall, as discussed in Cal. Code Regs., tit. 13, § 1971.5, Volvo shall pay the following stipulated penalties for each cluster, as follows:

Penalty per Cluster

\$ 1,088,000 per OBD Noncompliance for OBD Cluster 1

\$ 15,902,000 per OBD Noncompliance for OBD Cluster 2

For the avoidance of doubt, any stipulated penalty payment under this Paragraph 73 satisfies any obligation to conduct a recall for an OBD Noncompliance Resulting in a Mandatory Recall.

74. OBD Noncompliances with Inspection and Maintenance (Clean Truck Check). If one or more engines in Clusters 1 and/or 2 has an OBD Noncompliance with Inspection and Maintenance (Clean Truck Check), except for engines that are improperly maintained or altered as described in Paragraph 39, for each and every OBD Noncompliance with Inspection and Maintenance (Clean Truck Check), Volvo shall pay the "California Air Resources Board" a stipulated penalty per OBD cluster:

Penalty per Cluster

\$ 408,000 per OBD Noncompliance for OBD Cluster 1

\$ 5,963,250 per OBD Noncompliance for OBD Cluster 2

75. Stipulated Penalties for Failure to Submit Complete and Accurate Reports. If Volvo fails to timely submit or resubmit complete and accurate reports in Section VII (Reporting Requirements), Volvo shall pay a stipulated penalty for each Day the report(s) remain incomplete or unsubmitted:

<u>Penalty per Day</u>	<u>Period of Noncompliance</u>
\$ 20,000	1st through 14th Day
\$ 40,000	15th through 30th Day
\$ 80,000	31st Day and beyond

76. Stipulated penalties under this Section shall begin to accrue on the Day after performance is due or on the Day a violation occurs, whichever is applicable, and shall continue to accrue until performance is satisfactorily completed or until the violation ceases. Stipulated penalties shall accrue simultaneously per violation for separate violations of this Settlement Agreement.
77. CARB shall issue any demand for stipulated penalties in writing to Volvo in accordance with Section XIV (Notices and Submissions). The written demand for payment of stipulated penalties shall specifically identify the violation.
78. Volvo shall pay any stipulated penalties to CARB within 30 Days of receiving the written demand.
79. CARB may in the unreviewable exercise of its discretion, reduce or waive stipulated penalties otherwise due it under this Settlement Agreement.
80. Stipulated penalties shall continue to accrue as provided in Paragraph 76 during any dispute resolution, but need not be paid until the following:
- a. If the dispute is resolved by agreement of the Parties, Volvo shall pay accrued penalties determined to be owed, together with interest, to CARB, within 30 Days of the effective date of the agreement.
 - b. If Volvo seeks judicial review of a dispute related to a demand for payment of stipulated penalties under this Settlement Agreement, no payment will be due while the review is pending. If CARB prevails in whole or in part, Volvo shall pay all accrued penalties determined by the court to be owed, together with interest as provided in Paragraph 12, within 60 Days of receiving the court's decision or order, except as provided in Paragraph 80(c), below.
 - c. If any Party appeals the decision issued by the court, no payment will be due while the appeal is pending. If CARB prevails in whole or in

part, Volvo shall pay all accrued penalties determined to be owing, together with interest, within 15 Days of receiving the final appellate court decision.

81. Volvo shall pay stipulated penalties owing to CARB in the manner set forth in, and with the confirmation notices required by, Section IV (Payment Requirements), except that the transmittal letter shall state that the payment is for stipulated penalties and shall state for which violation(s) the penalties are being paid.
82. If Volvo fails to pay stipulated penalties according to the terms of this Settlement Agreement, Volvo shall be liable for interest on such penalties, accruing as of the date payment became due and continuing until payment has been made in full. Interest shall be computed at a rate of 10% per annum as specified in California Code of Civil Procedure § 685.010. Nothing in this Paragraph shall be construed to limit CARB from seeking any remedy otherwise provided by law for Volvo's failure to pay any stipulated penalties.
83. The payment of penalties and interest, if any, shall not alter in any way Volvo's obligation to complete the performance of the requirements of this Settlement Agreement.
84. Stipulated penalties are not CARB's exclusive remedy for violations of this Settlement Agreement, including violations of this Settlement Agreement that are also violations of law. Subject to the provisions of Section XIII (Effect of Settlement/Reservation of Rights), CARB expressly reserves the right to seek any other relief CARB deems appropriate for Volvo's violation of this Settlement Agreement or applicable law, including but not limited to an action against Volvo for statutory penalties, additional administrative or injunctive relief, mitigation or offset measures, and/or contempt. However, the amount of any statutory penalty assessed for a violation of this Settlement Agreement shall be reduced by an amount equal to the amount of any stipulated penalty assessed and paid pursuant to this Settlement Agreement to CARB.

IX. INFORMATION COLLECTION AND RETENTION

85. Access to Information. CARB, and its representatives, including attorneys, contractors, and consultants, shall have the right of entry, upon presentation of credentials, at all reasonable times into any of Volvo's offices, plants, or facilities:

- a. to monitor the progress of activities required under this Settlement Agreement;
- b. to verify any data or information submitted to CARB in accordance with the terms of this Settlement Agreement;
- c. to obtain documentary evidence, including photographs and similar data;
- d. to assess Volvo's compliance with this Settlement Agreement; and/or
- e. for other purposes as set forth in California Government Code § 11180 et seq.

86. Records Retention and Access to Records.

- a. Until three years after Volvo has performed all obligations required under this Settlement Agreement or until this Settlement Agreement is terminated pursuant to Paragraph 122 below, whichever comes first, Volvo shall retain, and shall instruct its contractors and agents to preserve, all Records in its or its contractors' or agents' possession or control, or that come into its or its contractors' or agents' possession or control, and that relate in any manner to Volvo's performance of its obligations under this Settlement Agreement. CARB has an interest in these Records, which are necessary to its ability to oversee and assess Volvo's compliance with the terms of this Settlement Agreement. These information-retention requirements shall apply regardless of any contrary corporate or institutional policies or procedures. Nothing in this Paragraph shall apply to any documents in the possession, custody, or control of any outside legal counsel retained by Volvo in connection with this Settlement Agreement or of any contractors or agents retained by such outside legal counsel solely to assist in the legal representation of Volvo.
- b. At any time during the information-retention period specified by Paragraph 86(a), above, upon request by CARB, Volvo shall provide CARB copies of any Records required to be maintained under Paragraph 86(a) within 15 Days and an English translation of the requested copies of Records, if the original is in a non-English

language, within 15 Days, subject to reasonable extension if necessary by approval of CARB.

87. Privileged or Protected Information. Volvo may assert that certain Records contain material that is privileged or protected as provided under California law. If Volvo asserts such a privilege or protection, Volvo shall provide CARB a redacted version of the Record and the following information, if it is not apparent in the redacted version of the Record: (i) the title of the Record; (ii) the date of the Record; (iii) the name and title of each author of the Record; (iv) the name and title of each addressee and recipient; (v) a description of the subject of the Record; and (vi) the privilege or protection asserted by Volvo. However, Volvo may make no claim of privilege or protection regarding: (i) any data regarding the Subject Vehicles and/or Subject Engines that Volvo is required to create or generate pursuant to this Settlement Agreement; or (ii) the final version of a portion of any record that Volvo is required to create or generate pursuant to this Settlement Agreement.
88. Confidential Business Information. Volvo may also assert that Records required to be provided under this Settlement Agreement are protected as Confidential Business Information ("CBI") under Cal. Code Regs., tit. 17, § 91000, et seq. As to any Record that Volvo seeks to protect as CBI, Volvo and CARB shall follow the procedures set forth in Cal. Code Regs., tit. 17, § 91000, et seq.
89. This Settlement Agreement in no way limits or affects any right of entry and inspection, or any right to obtain information, held by CARB pursuant to applicable state laws, regulations, or permits, nor does it limit or affect any duty or obligation of Volvo to maintain Records imposed by applicable federal or state laws, regulations, or permits.

X. INTERNAL REVENUE CODE

90. For purposes of the identification requirement in section 162(f)(2)(A)(ii) of the Internal Revenue Code, and 26 C.F.R. § 1.162-21(b)(2), performance by Volvo of Section I (Applicability), Paragraph 3; Section IV (Payment Requirements and Instructions, including the Mitigation Project Investment), Paragraphs 10 and 11; Section V (Compliance Requirements); Section VI (On-Board Diagnostic Demonstration); Section VII (Reporting Requirements); Section XIV (Notices and Submissions), and related appendices, constitute amounts paid or incurred for restitution, remediation, or to come into compliance with law. Moreover, this

Settlement Agreement, together with Volvo's payment of the required amounts under Paragraphs 10 and 11 shall constitute documentary evidence required for purposes of the establishment requirement in 26 C.F.R. § 1.162-21(b)(3).

XI. FORCE MAJEURE

91. "Force majeure," for purposes of this Settlement Agreement, means any event arising from causes beyond the control of Volvo, or any entity controlled by Volvo, that delays or prevents the performance of any obligation under this Settlement Agreement despite Volvo's best efforts to fulfill the obligation. Given the need to protect public health and welfare and the environment, the requirement that Volvo exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential force majeure and best efforts to address the effects of any potential force majeure - as it is occurring and following the potential force majeure - such that any delay or non-performance is, and any adverse effects of the delay or non-performance are, minimized to the greatest extent possible. "Force majeure" does not include financial inability to perform any obligation under this Settlement Agreement.
92. If any event occurs for which Volvo will or may assert a claim of force majeure, Volvo shall provide initial notice to CARB by electronic mail transmitted to the email addresses set forth in Section XIV (Notices and Submissions). The deadline for the initial notice is seven Days after Volvo first knew or should have known that the event would likely delay or prevent performance. Volvo shall be deemed to know of any circumstance of which any contractor of, subcontractor of, or entity controlled by Volvo knew or should have known.
93. If Volvo seeks to assert a claim of force majeure concerning the event, within fourteen Days after the initial notice under Paragraph 92, Volvo shall submit a further notice to CARB by electronic mail transmitted to the email addresses set forth Section XIV (Notices and Submissions). That further notice shall include: (i) an explanation and description of the event and its effect on Volvo's completion of the requirements of the Settlement Agreement; (ii) a description and schedule of all actions taken or to be taken to prevent or minimize the delay and/or other adverse effects of the event; (iii) if applicable, the proposed extension of time for Volvo to complete the requirements of the Settlement Agreement; (iv) Volvo's rationale for attributing such delay to a force majeure; (v) a statement as to whether, in the opinion of Volvo, such event may cause or contribute to an

endangerment to public health or welfare or the environment; and (vi) all available proof supporting the claim that the delay was attributable to a force majeure.

94. Failure to submit a timely or complete notice or claim under this Section XI regarding an event precludes Volvo from asserting any claim of force majeure regarding that event, unless Volvo seeks and CARB approves an extension in writing before the expiration of the 14-day window referenced in Paragraph 93.
95. If CARB agrees that the delay or anticipated delay is attributable to a force majeure event, the time for performance of the obligations under this Settlement Agreement that is affected by the force majeure event will be extended by CARB for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure event shall not, of itself, extend the time for performance of any other obligation. CARB will notify Volvo in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure event.
96. If CARB does not agree that the delay or anticipated delay has been or will be caused by a force majeure event, CARB will notify Volvo in writing of that decision.
97. If Volvo elects to invoke the dispute resolution procedures set forth in Section XII (Dispute Resolution), it shall do so no later than 15 Days after receipt of CARB's notice. In any such proceeding, Volvo has the burden of proving that it is entitled to relief under this Section XI, that its proposed excuse or extension was or will be warranted under the circumstances, and that it complied with the requirements of this Section XI. If Volvo carries this burden, the delay or non-performance at issue shall be deemed not to be a violation by Volvo of the affected obligation of this Settlement Agreement identified to CARB.

XII. DISPUTE RESOLUTION

98. Unless otherwise expressly provided for in this Settlement Agreement, the dispute resolution procedures of this Section shall be the exclusive mechanism to resolve disputes arising between CARB and Volvo under or with respect to this Settlement Agreement. The Parties' failure to seek resolution of a dispute under this Section concerning an issue of which that Party had notice and an opportunity to dispute under this Section prior to a civil judicial action arising

under this Settlement Agreement precludes that Party from raising any such issue in the civil judicial action. All of the deadlines in this Section may be extended in writing by both Parties.

99. Informal Dispute Resolution. Any dispute subject to dispute resolution under this Settlement Agreement shall first be the subject of informal negotiations. The dispute shall be considered to have arisen when one Party sends to the other Party a written Notice of Dispute by email in accordance with Section XIV (Notices and Submissions). Such Notice of Dispute shall state clearly the matter in dispute. The period of informal negotiations shall not exceed 30 Days from the date the Party sent its Notice of Dispute. If CARB and Volvo cannot resolve a dispute by informal negotiations, then the position advanced by CARB shall be considered binding unless, within 30 Days after the conclusion of the informal negotiation period, Volvo invokes formal dispute resolution procedures as set forth below. If Volvo does not invoke formal dispute resolution, then CARB may proceed to enforce its binding position through a civil judicial enforcement action in accordance with Paragraph 102. CARB's complaint may not raise any issue that CARB did not raise in informal dispute resolution pursuant to Paragraph 99.
100. Formal Dispute Resolution. Volvo shall invoke formal dispute resolution procedures, within the time period provided in the preceding Paragraph, by sending CARB a written Statement of Position regarding the matter in dispute by email, in accordance with Section XIV (Notices and Submissions). The Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting Volvo's position and any supporting documentation relied upon by Volvo.
101. CARB will send Volvo its Statement of Position by email and mail within 45 Days of receipt of Volvo's Statement of Position, in accordance with Section XIV (Notices and Submissions). CARB's Statement of Position shall include, but need not be limited to, any factual data, analysis, or opinion supporting that position and any supporting documentation relied upon by CARB. CARB's Statement of Position is binding on Volvo, unless Volvo files a complaint for judicial review of the dispute in accordance with the following Paragraph. If Volvo does not file a complaint for judicial review in accordance with the following Paragraph, then CARB may proceed to enforce its binding position through a civil judicial enforcement action in accordance with Paragraph 102. CARB's complaint may

not raise any issue that CARB did not raise in informal dispute resolution in accordance with Paragraph 99.

102. Judicial Dispute Resolution. If the dispute is not resolved through Informal or Formal Dispute Resolution under this Section, Volvo or CARB (as specified in Paragraphs 99 and 101) may seek judicial review of the dispute by filing a complaint with the Superior Court of California, located in the County of Sacramento, and serving the complaint on the other Party as provided by the California Code of Civil Procedure, with a copy simultaneously in the case of CARB served on CARB's legal counsel at the California Office of the Attorney General. The complaint must be filed within 30 Days of email transmittal of CARB's Statement of Position pursuant to the preceding Paragraph. The complaint may not raise any issue that the Party did not raise in informal dispute resolution pursuant to Paragraph 99 unless the issue was first raised by the other Party's Statement of Position. The complaint shall state the Party's position on the matter in dispute, including any supporting factual data, analysis, opinion, or documentation, and shall set forth the relief requested and any schedule within which the dispute must be resolved for orderly implementation of the Settlement Agreement.
103. Each Party shall respond to the other Party's complaint within the time period allowed by the California Code of Civil Procedure.
104. Standard of Review: Disputes Concerning Matters Accorded Record Review. Except as otherwise provided in this Settlement Agreement, in any dispute brought pursuant to Paragraph 102 that pertains to: (a) the adequacy or appropriateness of plans or procedures to implement plans, schedules, or any other item that requires approval by CARB under this Settlement Agreement; (b) the adequacy of the performance of work undertaken pursuant to this Settlement Agreement; and/or (c) all other disputes that are accorded review on the administrative record under applicable principles of administrative law, Volvo shall have the burden of demonstrating, based on the administrative record, that the position of CARB is arbitrary and capricious or otherwise not in accordance with law based on the administrative record. For purposes of this Paragraph, CARB will maintain an administrative record of the dispute, which will contain all statements of position, including supporting documentation, submitted pursuant to this Section. Prior to the filing of any motion, the Parties

may submit additional materials to be part of the administrative record pursuant to applicable principles of administrative law.

105. Standard of Review: Other Disputes. Except as otherwise provided in this Settlement Agreement, any other dispute brought pursuant to Paragraph 102 shall be resolved in accordance with applicable principles of California contract law.
106. In any disputes brought under this Section, it is hereby expressly acknowledged and agreed that this Settlement Agreement was jointly drafted in good faith by CARB and Volvo. Accordingly, the Parties hereby agree that any and all rules of construction to the effect that ambiguity is construed against the drafting party shall be inapplicable in any dispute concerning the terms, meaning, or interpretation of this Settlement Agreement.
107. The invocation of dispute resolution procedures under this Section shall not, by itself, extend, postpone, or affect in any way any obligation of Volvo under this Settlement Agreement, unless and until final resolution of the dispute so provides. Stipulated penalties with respect to the disputed matter shall continue to accrue from the first Day of noncompliance, but payment shall be stayed pending resolution of the dispute. If Volvo does not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section IV (Payment Requirements and Instructions).

XIII. EFFECT OF SETTLEMENT/RESERVATION OF RIGHTS

108. Upon the Effective Date, and subject to the reservations in Paragraph 109, Volvo's satisfaction of the requirements in this Settlement Agreement shall resolve, settle, and release:
- a. CARB's Claims concerning the Subject Vehicles pursuant to the California Health and Safety Code and California Code of Regulations against Volvo, any successors, assigns, or other entities or persons otherwise bound by law, and any present or former directors, officers, or employees of Volvo of any successors, assigns, or other entities or persons otherwise bound by law provided that such persons were acting within the scope of their employment;
 - b. Any claims that CARB could have alleged in litigation concerning the Subject Vehicles; and

- c. All claims for costs and attorneys' fees that CARB could have sought to recover in litigation.

109. This Settlement Agreement does not constitute an admission by Volvo of the Claims alleged herein or any other allegations asserted by CARB related to the Subject Vehicles. Volvo reserves all defenses, and all rights and remedies, legal and equitable, available to it in any action by a non-party pertaining to the Clean Air Act, or any other federal, state or local statute, rule or regulation.
110. CARB reserves, and this Settlement Agreement is without prejudice to, all claims, rights, and remedies against Volvo with respect to all matters not expressly resolved in Paragraph 108. Notwithstanding any other provision of this Settlement Agreement, CARB reserves all claims, rights, and remedies against Volvo with respect to enforcement of the terms of this Settlement Agreement.
111. This Settlement Agreement does not resolve and is without prejudice to, all claims, rights, and remedies against Volvo held by (a) the California Attorney General in his independent capacity, (b) officers or agencies of the State of California, other than CARB, or (c) individual consumers.
112. By entering into this Settlement Agreement, CARB is not enforcing the laws of other countries, including the emissions laws or regulations of any jurisdiction outside the United States. Nothing in this Settlement Agreement is intended to apply to, or affect, Volvo's obligations under the laws or regulations of any jurisdiction outside California. At the same time, the laws and regulations of other countries shall not affect Volvo's obligations under this Settlement Agreement.
113. This Settlement Agreement shall not be construed to limit the rights of CARB to obtain penalties or injunctive relief, except as specifically provided in Paragraph 108.
114. In any subsequent judicial proceeding initiated by CARB for injunctive relief, civil penalties, or other appropriate relief relating to Volvo's violations, Volvo shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim preclusion, claim-splitting, or other defenses based upon any contention that the claims raised by CARB in the subsequent proceeding were or should have been

brought in the instant case, except with respect to the claims that have been specifically released pursuant to Paragraph 108.

115. This Settlement Agreement is not a permit, or a modification of any permit, under any federal, state, or local laws or regulations. Volvo is responsible for achieving and maintaining complete compliance with all applicable federal, state, and local laws, regulations, and permits, and CARB does not, by its consent to the entry of this Settlement Agreement, warrant or aver in any manner that Volvo's compliance with any aspect of this Settlement Agreement will result in compliance with provisions of the Clean Air Act, or with any other provisions of United States, state, or local laws, regulations, or permits.
116. This Settlement Agreement does not affect the validity of CARB Executive Orders for the Subject Engines. The Subject Engines remain covered by CARB Executive Orders.
117. This Settlement Agreement does not limit or affect the rights of Volvo or CARB against any third parties not party to this Settlement Agreement, nor does it limit the rights of third parties not party to this Settlement Agreement against Volvo, except as otherwise provided by law.
118. This Settlement Agreement shall not be construed to create rights in, or grant any cause of action to, any third party not a party to this Settlement Agreement. No such third party shall be entitled to enforce any aspect of this Settlement Agreement or claim any legal or equitable injury for a violation of this Settlement Agreement.

XIV. NOTICES AND SUBMISSIONS

119. Unless otherwise specified in this Settlement Agreement, whenever any notification, submission or other communication is required by this Settlement Agreement, or whenever any communication is required in any action or proceeding related to or bearing upon this Settlement Agreement or the rights or obligations under this Settlement Agreement, it shall be made in writing electronically (except that if any attachment is voluminous, it shall be provided on a disk, hard drive, or other equivalent successor technology), and shall be addressed as follows:

All Notices shall be provided at the email or mail addresses below, as applicable:

As to CARB by email: VolvoSettlement@arb.ca.gov

All information should be submitted to CARB and the Office of the California Attorney General electronically without paper copies, where possible.

As to the Office of the California Attorney General (on behalf of CARB) by email:

Myung.Park@doj.ca.gov
Mike.Cayaban@doj.ca.gov
Josh.Caplan@doj.ca.gov
Irene.Whitcombe@doj.ca.gov
Ryan.Hoffman@doj.ca.gov
Corey.Moffat@doj.ca.gov

As to Volvo by mail:

John Sponsky
Volvo Powertrain North America
13302 Pennsylvania Avenue
Hagerstown, MD 21742

As to Volvo by email: john.sponsky@volvo.com

120. Any Party may, by written email notice to the other Parties, change its designated notice recipient or notice address provided above.

XV. INTEGRATION

121. This Settlement Agreement, including all Appendices listed below and incorporated by reference, constitutes the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Settlement Agreement and supersedes all previous agreements and understandings, whether oral or written, concerning the settlement embodied in this Settlement Agreement. The Parties acknowledge that there are no documents, representations, inducements, agreements, understandings or promises that constitute any part of this Settlement Agreement or the settlement it represents other than those expressly contained or referenced in this Settlement Agreement. The following Appendices are incorporated by reference:

- a. Appendix A: OBD Test Protocol
- b. Appendix B: OBD Clusters
- c. Appendix C: Preapproved OBD Noncompliances
- d. Appendix D: Additional Reported OBD Noncompliances Template
- e. Appendix E: Subject Engines
- f. Appendix F: Extended Warranty and Warranted Parts List

XVI. MODIFICATION AND TERMINATION

122. No agreement to modify, amend, extend, supersede, terminate, or discharge this Settlement Agreement, or any portion thereof, is valid or enforceable unless it is in writing and signed by all the Parties to this Settlement Agreement.

XVII. AUTHORITY

123. Each undersigned representative of Volvo and CARB certifies that he or she is fully authorized to enter into the terms and conditions of this Settlement Agreement.
124. Binding Effect. This Settlement Agreement binds Volvo, and any principals, officers, receivers, trustees, successors and assignees, subsidiary and parent corporations and CARB and any successor agency that may have responsibility for and jurisdiction over the subject matter of this Settlement Agreement.
125. Severability. Each provision of this Settlement Agreement is severable, and in the event that any provision of this Settlement Agreement is held to be illegal, invalid or unenforceable in any jurisdiction, the remainder of this Settlement Agreement remains in full force and effect.
126. Choice of Law. This Settlement Agreement shall be interpreted and enforced in accordance with the laws of the State of California, without regard to California's choice-of-law rules.
127. Non-Discharge. It is further agreed that the penalties described in this Settlement Agreement are non-dischargeable under United States Code, title 11, section 523(a)(7), which provides an exception from discharge for any

debt to the extent such debt is for a fine, penalty, or forfeiture payable to and for the benefit of a governmental unit.

128. Rules of Construction. Any rule of construction to the effect that ambiguities are to be resolved against the drafting party shall not be applied in interpreting this Settlement Agreement.
129. Non-Waiver. The failure to enforce any provision of this Settlement Agreement shall not be construed as a waiver of any such provision, nor prevent such Party thereafter from enforcing such provision or any other provision of this Settlement Agreement. The rights and remedies granted all Parties herein are cumulative and the election of one right or remedy by a Party shall not constitute a waiver of such Party's right to assert all other legal remedies available under this Settlement Agreement or otherwise provided by law.
130. Intent to be Bound. The Parties represent that: They have participated fully in the review and drafting of this Settlement Agreement; understand and accept all terms; enter into this Settlement Agreement freely and voluntarily; have had an opportunity to consult with legal counsel; are fully informed of the terms and effect of this Settlement Agreement; have agreed to this Settlement Agreement after independent investigation and agree it was not arrived at through fraud, duress, or undue influence; and knowingly and voluntarily intend to be legally bound by this Settlement Agreement.
131. Venue. The Superior Court of California, located in the County of Sacramento, shall hear any dispute between the Parties arising from this Settlement Agreement.
132. Counterparts and Electronic Signatures. This Settlement Agreement may be executed in counterparts. Electronic, facsimile or photocopied signatures shall be considered as valid signatures.

ACKNOWLEDGED AND ACCEPTED BY:

California Air Resources Board

Signature: /S/

Name: Steven S. Cliff, Ph.D.

Title: Executive Officer

Date: May 18, 2026

Volvo Group North America, LLC

Signature: /S/

Name: Stephen Roy

Title: Executive Vice President, Volvo Group

Date: May 18, 2026

APPENDIX A

Protocol For On-Board Diagnostic (OBD) Demonstration Assessment of the Approved Emission Modification ("OBD Test Protocol")

1. OBD Test Engines and Vehicles.
 - a. OBD Demonstration Engines ("Test Engines"). For each of OBD Clusters 1 and 2, Volvo Group North America, LLC ("Volvo") shall acquire a representative high mileage engine(s) or use representative high mileage engine(s) in Volvo's possession.
 - b. OBD Production Engine/Vehicle Evaluation (PEVE) Vehicles ("Test Vehicles"). For each of OBD Clusters 1 and 2, and for testing conducted in accordance with Paragraph¹ 2.b. ("PEVE Testing"), Volvo shall acquire production vehicles. The OBD PEVE Vehicles may be obtained from an appropriate source, including individual consumers who advertised their vehicles for sale or from Dealers.
 - c. Criteria for OBD Demonstration Engines and OBD PEVE Vehicles.
 - i. In selecting the Test Engine(s), Volvo shall include only engines that meet the criteria set forth at 13 C.C.R. § 1971.5(c)(2)(C)(i)a. through h., except for 1971.5(c)(2)(C)(i)c.
 - ii. Volvo shall ensure that the Test Engines and Test Vehicles do not meet any of the As-Received Testing Vehicle Rejection Criteria set forth at 40 C.F.R. Part 86, Subpart S, Appendix II.
 - iii. Nothing in this OBD Test Protocol precludes Volvo from testing or on-road driving of an engine or vehicle to ensure that it is in good working order prior to commencing testing under this OBD Test Protocol.
 - iv. Volvo shall obtain all reasonably available records that are related to emission repairs for the Test Engine or Test Vehicle from internal systems and databases, including records of warranty repairs and customer-paid repairs, tester logs, and electronic control unit data.
 - v. Prior to selection of a Test Engine or Test Vehicle, Volvo shall make all repairs necessary to ensure proper functioning. Volvo shall not replace a part that is properly functioning if such part has been approved under a California Air Resources Board (CARB) Executive Order or is made by Volvo or Volvo's suppliers. Volvo shall provide a written description of the repairs (including part replacements), and the reason

¹ Any reference to "Paragraph" means the paragraphs in this Appendix A, OBD Test Protocol, unless otherwise stated.

- for the repairs, in the Approved Emission Modification OBD Demonstration Report, as defined in Paragraph 4.a.vi.
- vi. After selection of a Test Engine or Test Vehicle, Volvo shall make all repairs necessary to ensure proper functioning or choose to use a Secondary Test Engine or Secondary Test Vehicle in lieu of making repairs, as described in Paragraph 1.d.ii. Unless the Test Engine or Test Vehicle Malfunctions, Volvo shall not replace a part. Volvo shall provide a written description of the repairs (including part replacements) and the reason for the repairs, and the justification and any relevant data, in the Approved Emission Modification OBD Demonstration Report.
 - vii. For part replacements performed under Paragraphs 1.c.v. or 1.c.vi., Volvo shall use a deteriorated part that has no less than half the mileage of the vehicle or replaced part at the time of the repair, except that the requirement to use deteriorated parts shall not apply to parts like seals, gaskets, screws, or clamps (installation materials).
 - viii. At any time, Volvo shall conduct any routine maintenance indicated by the applicable service or owner's manual to ensure proper functioning of a Test Engine or Test Vehicle, provided that Volvo provide a written description of the maintenance and the reason for the maintenance in the Approved Emission Modification OBD Demonstration Report.
- d. Secondary Test Engines or Secondary Test Vehicles.
- i. Nothing in this OBD Test Protocol prohibits Volvo from obtaining additional Secondary Test Engines or Secondary Test Vehicles as needed. Volvo specifically reserves the ability to obtain additional OBD Demonstration Engines and OBD PEVE Vehicles for testing in Paragraphs 2.a. and 2.b. for any OBD Cluster. If Volvo cannot obtain additional Secondary Test Engines or Secondary Test Vehicles, Volvo shall notify CARB, providing proof of inability to procure Secondary Test Engines or Secondary Test Vehicles, and CARB shall extend the time to submit the Approved Emission Modification OBD Demonstration Report described in Paragraph 4. to allow for procurement provided sufficient proof supports Volvo's claim.
 - ii. Upon a Malfunction of a Test Engine or Test Vehicle during or outside of testing under this OBD Test Protocol, Volvo shall follow the procedure below:
 - 1. First, Volvo shall stop any testing of the engine or vehicle and determine the reason for the Malfunction.
 - 2. Second, Volvo may elect to repair the engine or vehicle

consistent with Paragraphs 1.c.vi. and 1.c.vii. and continue testing, or restart testing using a Secondary Test Engine or Secondary Test Vehicle with the following caveats:

- a. If Volvo elects to repair the engine or vehicle, the repairs shall be reported to CARB in accordance with Paragraphs 4.a.i.1. and 4.a.vi. of this OBD Test Protocol.
- b. If Volvo elects to switch to a Secondary Test Engine or Secondary Test Vehicle:
 - i. If Volvo retains any test results generated prior to switching to the Secondary Test Engine or Secondary Test Vehicle, Volvo shall provide an engineering justification in writing explaining why the retained test results are not impacted by the Malfunction.
 - ii. Volvo may retain test results from an OBD Demonstration Engine in lieu of restarting and conducting all OBD demonstration testing required under Paragraph 2.a. on a Secondary OBD Demonstration Engine if and only if the following conditions are met with respect to the OBD Demonstration Engine that Malfunctioned and the Secondary OBD Demonstration Engine: (1) Volvo performs SCR efficiency and EGR low flow monitoring demonstrations on both engines, (2) the calibration set is the same on both engines, (3) both engines are the same Model and Model Year, and (4) the engine aging meets the requirements of Paragraphs 1.a. and 1.c.i.
3. Volvo shall collect all data required (for each Test Engine and Test Vehicle), for each test, and document the Malfunction, including an explanation of the reason for the Malfunction and its impact on the test results, in accordance with the requirements of Paragraphs 4.a.i.2. and 4.a.vii. of this OBD Test Protocol.
- e. Approved Emission Modification Installation.
 - i. Prior to the commencement of OBD Demonstration testing as set forth in Paragraph 2. below, for each Test Engine and Test

Vehicle undergoing such testing, if the engine or vehicle has not received the Approved Emission Modification, then Volvo shall modify the Test Engine or Test Vehicle as follows:

1. Volvo shall reflash the affected control units, altering its software calibrations to the Approved Emission Modification, and implement any hardware changes that are included in the Approved Emission Modification.
2. Volvo shall not make any further hardware or software changes once the testing of the Approved Emission Modification specified in Paragraph 2. begins. This does not preclude Volvo from repairing vehicles that experience a Malfunction as described in Paragraph 1.d.ii. after the Approved Emission Modification is installed, carrying out repairs or scheduled maintenance as permitted by Paragraphs 1.c.v. through 1.c.viii., or modifying a Test Engine or Test Vehicle in connection with testing conducted under Paragraph 2.
3. Nothing in this Paragraph 1.e. shall prevent Volvo from modifying an OBD Demonstration Engine or OBD PEVE Vehicle consistent with this OBD Test Protocol in order to conduct an OBD demonstration required under this OBD Test Protocol and return the engine or vehicle to normal operating conditions after the OBD demonstration, as permitted by 13 C.C.R. § 1971.1 or this OBD Test Protocol.

2. OBD Demonstration.

a. OBD Durability Demonstration Engine Testing.

- i. Critical Demonstration of OBD Monitors for OBD Clusters 1 and 2. For an OBD Demonstration Engine in each of OBD Clusters 1 and 2, Volvo shall perform the test methods (demonstration test sequence, failed part, and Infrequent Regeneration Adjustment Factor (IRAF)) set forth at 13 C.C.R. § 1971.1(i)(4), and apply the evaluation criteria set forth at 13 C.C.R. § 1971.1(i)(5) in accordance with the regulations and standards applicable to the Engine Family at the time the Engine Family was certified for each of the following critical OBD monitors: (1) oxides of nitrogen (NOx) converting catalyst efficiency, (2) Non-Methane Hydrocarbon (NMHC) catalyst conversion efficiency, (3) diesel particulate filter (DPF) performance efficiency, (4) reductant delivery performance, (5) exhaust gas recirculation (EGR) low flow, (6) EGR slow response, (7) boost pressure control system

slow response, (8) upstream NOx sensor gain low, (9) upstream NOx sensor offset high, (10) downstream NOx sensor stuck low, (11) downstream NOx sensor offset high, (12) fuel system injection quantity - high all cylinders, (13) fuel system injection quantity - high single cylinder, (14) fuel system injection quantity - low single cylinder, (15) closed loop fuel pressure control at limit - pressure too high, (16) closed loop fuel pressure control at limit - pressure too low, (17) cold start NOx catalyst inlet temperature too low, (18) cold start EGR flow low flow. CARB shall not prohibit Volvo from using test methods as previously approved for the respective Model Year Engine Family. The allowance in 13 C.C.R. § 1971.1(i)(4.4) to use internal calibration sign-off test procedures in lieu of official test procedures shall not apply.

- ii. Default Action Monitor Demonstration. For any monitor with a default action demonstrated under Paragraphs 2.a.i., Volvo may satisfy the demonstration requirement by showing that emissions remain below the applicable OBD threshold with a best performing unacceptable (“BPU”) component and the default emission control strategy disabled through computer modifications.
 - iii. Specific Alternative or Modified Monitor Demonstration Proposals. If Volvo seeks to use a specific alternative or modified OBD demonstration procedure described in 13 C.C.R. § 1971.1 that may be used with Executive Officer approval, Volvo shall submit, pursuant to Paragraph 3.a.iv, a proposal describing the specific alternative or modified demonstration procedure in detail for CARB approval for each OBD Cluster for which Volvo seeks to use a specific alternative or modified demonstration procedure.
 - iv. Volvo may perform OBD testing under Paragraphs 2.a.i. on two OBD Demonstration Engines within an OBD Cluster simultaneously if and only if the following conditions are met with respect to both of the OBD Demonstration Engines: (1) Volvo performs selective catalytic reduction (SCR) efficiency and exhaust gas recirculation (EGR) low flow monitoring demonstrations on both engines, (2) the calibration set is the same on both engines, (3) both engines belong to the same Engine Family, and (4) the engine aging meets the requirements of Paragraphs 1.a. and 1.c.i.
- b. Production Engine/Vehicle Evaluation Testing.
- i. PEVE L1 Testing OBD Clusters 1 and 2. Volvo shall conduct, for

each Engine Family in each of OBD Clusters 1 and 2, PEVE 13 C.C.R. § 1971.1(l)(1) testing on one OBD PEVE Vehicle in accordance with the regulations and standards applicable to the Engine Family at the time the Engine Family was certified. Volvo may alternatively conduct testing on one OBD PEVE Vehicle for each calibration if the same calibration is used for more than one Engine Family.

- ii. Critical PEVE L2 Testing OBD Clusters 1 and 2. For each of OBD Clusters 1 and 2, Volvo shall conduct PEVE 13 C.C.R. § 1971.1(l)(2) testing on diagnostics that undergo software or calibration modification as part of the proposed Approved Emission Modification Configuration. Testing shall be conducted on a Test Vehicle and include setting pending, confirmed, and permanent fault codes, and healing of permanent fault codes. Volvo is not required to demonstrate diagnostics that were previously demonstrated under Paragraph 2.a.i. Volvo shall submit a PEVE diagnostic list in accordance with Paragraph 3.a.v.
- iii. PEVE L3 Testing OBD Clusters 1 and 2. Volvo shall collect and report in-use monitoring performance data as required by 13 C.C.R. § 1971.1(l)(3) (i.e., verification and reporting of in-use monitoring performance) from 15 vehicles per monitoring performance group from each OBD Clusters 1 and 2 within 18 months of approval of the Remedial Plan in accordance with the regulations and standards applicable to the Engine Family at the time the Engine Family was certified. Vehicles shall be selected, for the purposes of this Paragraph only, with a minimum general denominator of 100 or a maximum of 365 Days of service after implementation of the fix.

3. OBD Interim Report.

- a. Contents and Submission Timing. Within 60 Days of approval of the Remedial Plan, for both OBD Clusters 1 and 2 Volvo shall submit to CARB a written report (the "OBD Interim Report") for review and approval that contains the following:
 - i. A list of proposed OBD Demonstration Engines, including engine and aftertreatment mileage, Model Years, Engine Families, the engine HP rating, and the engine torque rating.
 - ii. A list of proposed OBD PEVE Vehicles, including VINs, odometer readings, Model Years, Engine Families, the engine horsepower (HP) rating, and the engine torque rating to be used for purposes of PEVE Testing as required under Paragraphs 2.b.i. and 2.b.ii.
 - iii. For each OBD Cluster a list of diagnostics, demonstration test sequences, failed parts, and OBD IRAF determination method Volvo

- proposes for testing required under Paragraph 2.a.
 - iv. For each OBD Cluster for which Volvo seeks to use a specific alternative or modified OBD demonstration procedure other than the test methods specified in Paragraph 2.a.i., a proposal describing the procedure for each OBD Cluster, as well as a justification for the need to use an alternative or modified OBD demonstration procedure.
 - v. For each OBD Cluster a list of diagnostics and the method used to induce a malfunction for each diagnostic for testing required under Paragraph 2.b.ii.
 - vi. Any testing data supporting Volvo's proposal that CARB may need to evaluate the proposal.
 - b. Certification. Volvo shall include a certification, in accordance with Section VII (Reporting Requirements), Paragraph 51 of this Settlement Agreement, with respect to all information contained in the OBD Interim Report.
 - c. Consultation. Volvo shall make itself available, upon request by CARB, within 10 Business Days after Volvo submits the OBD Interim Report, to provide information that CARB needs to evaluate the OBD Interim Report.
 - d. Response. Volvo's OBD Interim Report shall be deemed approved unless otherwise notified in writing by CARB within 60 Business Days of CARB's receipt of the OBD Interim Report. Any approval, approval in part, disapproval, or failure to make a determination shall follow Paragraphs 5.a.i.1.-5.a.i.4.
4. OBD Demonstration Data Collection and Dissemination.
- a. Testing Data. Volvo shall complete all testing required under Paragraphs 2.a., 2.b.i., and 2.b.ii. of this OBD Test Protocol and submit all testing results to CARB in a single submission as a report (the "Approved Emission Modification OBD Demonstration Report") for each OBD Cluster within 18 months of approval of the Remedial Plan, however in no event shall the deadline to submit the Approved Emission Modification OBD Demonstration Report be less than 3 months following CARB's approval of the OBD Interim Report. If a test is not required for a specific OBD Cluster under this OBD Test Protocol, the corresponding data collection and dissemination requirement does not apply. Each Approved Emission Modification OBD Demonstration Report shall include the following information, with the underlined Paragraph and Subparagraph "titles" serving as section and subsection headings for the Report:
 - i. Executive Summary. The Approved Emission Modification OBD Demonstration Report shall include an executive summary that:
 - 1. Test Engine or Test Vehicle Repairs. Provides a description of any repairs of any Test Engine, Test Vehicle, Secondary Test Engine, or Secondary Test Vehicle pursuant to Paragraphs 1.c. and 1.d.ii.2. of this OBD Test Protocol.

2. Test Engine or Test Vehicle Malfunctions. Provides a description of any Malfunction of any Test Engine, Test Vehicle, Secondary Test Engine, or Secondary Test Vehicle pursuant to Paragraph 1.d.ii. of this OBD Test Protocol and describes the reason for the Malfunction, if known.
 3. Aborted/Invalidated Tests. Lists all tests performed under this OBD Test Protocol that were aborted and/or invalidated for any reason and provides a description of the reason the test was aborted and/or deemed invalid (e.g., equipment problems). The data for any aborted or invalidated test shall be provided together with the data from any completed tests, in the relevant "section" of the Approved Emission Modification OBD Demonstration Report below.
 4. Certification. Includes a certification, in accordance with Section VII (Reporting Requirements), Paragraph 51 of this Settlement Agreement, with respect to all information contained in the Approved Emission Modification OBD Demonstration Report that: explicitly states that the OBD Test Protocol was followed; the OBD Interim Report under Paragraph 3 was complete and accurate and any conditions specified in CARB's approval of the OBD Interim Report were followed; and that the laboratory quality assurance/quality control (QA/QC) reports referenced in Paragraph 4.a.viii. were in effect at the time of testing and were followed.
- ii. Critical Demonstration of OBD Monitors. For each demonstration of OBD monitors conducted under Paragraph 2.a.i. Volvo shall provide to CARB: (1) a written description of any OBD Noncompliance, concerns, or other nonconformities with the applicable version of 13 C.C.R. § 1971.1; (2) all test data collected as set forth at 13 C.C.R. § 1971.1(i)(4.3); (3) a Flat File of each dynamometer test that includes engine identification information, a test identification number, and average emissions results per test cycle and weighted emissions results; (4) documentation of the specific hardware used in the testing; (5) specification of demonstration method used (i.e., on-road or dynamometer test cycle) and, if CARB approved an alternate procedure under Paragraph 3.a.iv., the date of the approval; (6) all demonstration test results; and (7) any relevant associated data.
 - iii. PEVE L1 Testing. For Production Engine/Vehicle Evaluation 13 C.C.R. § 1971.1(l)(1) testing conducted under Paragraph 2.b.i., Volvo shall provide: (1) a written report of the problem(s) identified consistent with 13 C.C.R. § 1971.1(l)(1.5.1)(B); and (2) a report of the results and the test log file, consistent with 13 C.C.R. §

- 1971.1(l)(1.5.1).
- iv. Critical PEVE L2 Testing. For Production Engine/Vehicle Evaluation 13 C.C.R. § 1971.1(l)(2) testing conducted under Paragraph 2.b.ii., Volvo shall provide: (1) a written description of the results of all testing conducted pursuant to section 13 C.C.R. § 1971.1(l)(2), including the method used to induce a malfunction in each diagnostic, the Malfunction Indicator Light illumination status, and the fault code(s) stored, and any OBD Noncompliances, concerns, or other nonconformities with the applicable version of 13 C.C.R. § 1971.1; and (2) a list of diagnostics that were previously demonstrated under Paragraph 2.a.i.
 - v. Log Sheets. For all data provided pursuant to Paragraphs 4.a.ii. (Critical Demonstration of OBD Monitors), 4.a.iii. (PEVE L1 Testing), and 4.a.iv. (Critical PEVE L2 Testing), Volvo shall submit a log sheet listing the unique Software Calibration Identification Numbers (CAL ID) and Software Calibration Verification Numbers (CVN) for the Approved Emission Modification Configuration; for the OBD Demonstration Engine or OBD PEVE Vehicle, the Model Year, Model, and VIN (if applicable); a test identification number; and the date, time, drive cycle, and mileage (both for the beginning and for the ending of the test). Such log sheets and data sets shall also include data for any tests that were invalidated for any reason.
 - vi. Test Engine or Test Vehicle Repairs. Any records related to any repairs of any Test Engine, Test Vehicle, Secondary Test Engine, or Secondary Test Vehicle pursuant to Paragraphs 1.c. and 1.d.ii.2. of this OBD Test Protocol. Records prior to Volvo's acquisition of the engine or vehicle in accordance with Paragraphs 1.a. or 1.b. may be drawn from internal Volvo systems and databases pursuant to Paragraph 1.c.iv.
 - vii. Test Engine or Test Vehicle Malfunctions. Any records related to any Malfunction of any Test Engine, Test Vehicle, Secondary Test Engine, or Secondary Test Vehicle, and to the determination of the reason for the Malfunction pursuant to Paragraph 1.d.ii. of this OBD Test Protocol, if known. This excludes malfunctions implanted as part of an OBD demonstration pursuant to Paragraph 2.a.i. or a malfunction implanted as part of a PEVE test under Paragraph 2.b.ii.
 - viii. Laboratory QA/QC Reports. The QA/QC report(s) for any dynamometer laboratory conducting testing pursuant to this OBD Test Protocol that covers the relevant period of dynamometer testing shall be maintained and furnished and shall constitute part of the administrative record of this case, pursuant to Section XII (Dispute Resolution) of this Settlement Agreement.
- b. PEVE L3 Testing OBD Clusters. Volvo shall collect all PEVE section

1971.1(l)(3) in-use monitoring performance data as required under Paragraphs 2.b.iii. and submit it to CARB in a single submission (“PEVE L3 Testing Report”), for each OBD Cluster within 18 months of approval of the Remedial Plan. The PEVE L3 Testing Report shall include: (1) a report that includes a summary of any problems identified in the data pursuant to 13 C.C.R. § 1971.1(l)(3.4); and (2) all of the in-use performance tracking data reported through SAE J1979 (i.e., all numerators, denominators, the general denominator, and the ignition cycle counter), the engine model year, the Engine Family, the engine serial number, the engine HP rating, the engine torque rating, the date the data were collected, the chassis odometer reading, the vehicle/chassis VIN, the monitoring performance group, the engine control module (ECM) CAL ID, and the distance traveled and be in the standardized format detailed in Attachment D of ARB Mail-Out #MSC 09-22 consistent with 13 C.C.R. § 1971.1(l)(3.4).

5. CARB Review and Approval of OBD Interim Report.

- a. Agency Review of Testing Data. CARB shall review the OBD Interim Report to determine whether the provided information and proposed criteria pursuant to Paragraphs 3.a. and 3.b. are acceptable to begin the OBD Demonstration Testing pursuant to Paragraph 2., according to the following criteria and timeline:
 - i. Process for Review and Approval. CARB shall have 60 Business Days, beginning at 12:01 am Pacific Time on the first Business Day after receipt of the OBD Interim Report, to approve or disapprove the OBD Interim Report, subject to Section XII (Dispute Resolution) of the Settlement Agreement.
 1. Approval. If CARB approves the OBD Interim Report in accordance with the requirements of this OBD Test Protocol, CARB shall timely notify Volvo by letter titled: “Notice of Approval of OBD Interim Report: [corresponding OBD Cluster],” after which Volvo shall then proceed with the OBD Demonstration Testing pursuant to Paragraph 2. as described by the OBD Interim Report.
 2. Approval In Part. If CARB approves part of a proposed OBD Interim Report and disapproves the remainder, CARB shall timely notify Volvo by letter titled: “Notice of Partial Approval/Partial Disapproval of OBD Interim Report: [corresponding OBD Cluster].” CARB shall identify each specific basis for disapproval in writing. Within 45 Business Days, or such other time as the parties agree to in writing, of receipt of CARB’s written identification of the specific bases for the disapproval, Volvo may submit one revised proposed OBD Interim Report that must resolve all of CARB’s bases for disapproval. CARB shall either approve or disapprove each complete revision within 45

Business Days of receipt of the revised proposed OBD Interim Report. If a resubmitted Submission is disapproved, in whole or in part, CARB shall either again require Volvo to correct any deficiencies in accordance with Paragraphs 5.a.i.2., or 5.a.i.3.; or CARB itself/themselves shall correct any deficiencies, and Volvo shall implement the Submission as modified by CARB, subject to Volvo's right to invoke dispute resolution and the right of CARB to seek stipulated penalties. CARB shall then issue either a "Final Notice of Disapproval of Remainder of OBD Interim Report: [corresponding OBD Cluster]," that identifies the specific bases for the disapproval, or a "Notice of Approval of Remainder of OBD Interim Report: [corresponding OBD Cluster]." If CARB issues a Final Notice of Disapproval of Remainder, Volvo may invoke dispute resolution under Section XII (Dispute Resolution) of the Settlement Agreement.

3. Disapproval. If CARB disapproves in whole a proposed OBD Interim Report in accordance with the requirements of this OBD Test Protocol, CARB shall timely notify Volvo by letter titled: "Notice of Disapproval of OBD Interim Report: [corresponding OBD Cluster]," that identifies each specific basis for disapproval. Within 45 Business Days, or such other time as the parties agree to in writing, of receipt of CARB's letter(s), Volvo may submit one revised proposed OBD Interim Report that must resolve all of CARB's bases for disapproval. CARB shall either approve or disapprove such revision within 45 Business Days of receipt of the revised OBD Interim Report. If a resubmitted Submission is disapproved, in whole or in part, CARB shall either again require Volvo to correct any deficiencies in accordance with this Paragraph 5.a.i.3. or Paragraph 5.a.i.2.; or CARB itself/themselves shall correct any deficiencies, and Volvo shall implement the Submission as modified by CARB, subject to Volvo's right to invoke dispute resolution and the right of CARB to seek stipulated penalties. CARB shall then issue either a "Final Notice of Disapproval of OBD Interim Report: [corresponding OBD Cluster]," that identifies the specific bases for the disapproval, or a "Notice of Approval of OBD Interim Report: [corresponding OBD Cluster]." If CARB issues a Final Notice of Disapproval, Volvo may invoke dispute resolution under Section XII (Dispute Resolution) of the Settlement Agreement.
4. Failure to Make a Determination. If CARB fails to make a determination on an OBD Interim Report within 60 Business Days of receipt of the OBD Interim Report (as of 12:01 am Pacific Time on the 61st Day after receipt of the OBD Interim Report),

the OBD Interim Report is deemed approved in accordance with Paragraph 5.a.i.1., above, regardless of whether CARB has issued or will issue a "Notice of Approval of OBD Interim Report: [corresponding OBD Cluster]." Volvo shall proceed with the OBD Demonstration Testing pursuant to Paragraph 2. as described by the OBD Interim Report after the passage of this 60th Day.

APPENDIX B

On-Board Diagnostic (OBD) Clusters

MY	Engine Family	Cluster
2014	EVPTH10.8G01	Cluster 1
2015	FVPTH10.8G01	
2016	GVPTH10.8G01	
2014	EVPTH12.8G01	Cluster 2
2015	FVPTH12.8G01	
2016	GVPTH12.8G01	
2014	EVPTH16.1G01	Cluster 3
2015	FVPTH16.1G01	
2016	GVPTH16.1G01	
2013	DVPTH10.8S01	Cluster 4
2013	DVPTH12.8S01	
2013	DVPTH16.1S01	

APPENDIX C

Pre-Approved On-Board Diagnostic (OBD) Noncompliances

OBD Cluster	Engine Family	Model Year	Name of OBD Noncompliance
1	EVPTH10.8G01	2014	1) Selective Catalytic Reduction (SCR) System Monitoring 2) Reductant Delivery Performance Monitoring 3) Non-Methane Hydrocarbon (NMHC) Catalyst Efficiency Monitoring 4) Cold Start Emission Reduction Strategy (CSERS) Monitoring 5) Thermostat Monitoring 6) Heat Mode Control Monitoring 7) Diesel Exhaust Fluid (DEF) Dosing Control Monitoring 8) Cylinder Balancing System Control Monitoring 9) Ammonia Slip Catalyst Monitoring 10) Fuel Pressure Sensor Monitoring
	FVPTH10.8G01	2015	1) Diesel Particulate Filter (DPF) Efficiency Monitoring 2) DEF Delivery Performance Monitoring 3) Time to Enter Closed Loop DEF Dosing Monitoring 4) CSERS Monitoring 5) Standardization Requirements

	GVPTH10.8G01	2016	<ul style="list-style-type: none"> 1) In-Use Monitoring Performance Ratio (IUMPR) Definition 2) NMHC Converting Catalyst Conversion Efficiency Monitoring 3) SCR Conversion Efficiency Monitoring 4) DPF Efficiency Monitoring 5) Oxides of Nitrogen (NOx) Sensor Heater Circuit Check Monitoring 6) Vehicle Speed Sensor Communication Monitoring 7) DEF Quality Sensor Monitoring 8) DEF Pump Temperature Sensor Monitoring 9) Exhaust Gas Temperature (EGT) Sensor Rationality Monitoring 10) Turbocharger Speed Sensor Circuit Check Monitoring 11) Intake Air Heater Monitoring 12) Wait-to-Start Lamp Monitoring 13) NMHC Converting Catalyst Conversion Efficiency and Feedgas Generation Threshold Part Method 14) Time to Enter Closed Loop DEF Dosing Monitoring 15) Warm-Hold Operation Mode Monitoring 16) CSERS Monitoring
2	EVPTH12.8G01	2014	<ul style="list-style-type: none"> 1) SCR System Monitoring 2) Reductant Delivery Performance Monitoring 3) NMHC Catalyst Efficiency Monitoring 4) CSERS Monitoring 5) Thermostat Monitoring 6) Heat Mode Control Monitoring 7) DEF Dosing Control Monitoring 8) Cylinder Balancing System Control Monitoring 9) Ammonia Slip Catalyst Monitoring 10) Fuel Pressure Sensor Monitoring
	FVPTH12.8G01	2015	<ul style="list-style-type: none"> 1) DPF Efficiency Monitoring 2) DEF Delivery Performance Monitoring 3) Time to Enter Closed Loop DEF Dosing Monitoring 4) CSERS Monitoring 5) Standardization Requirements
	GVPTH12.8G01	2016	<ul style="list-style-type: none"> 1) IUMPR Definition 2) NMHC Converting Catalyst Conversion Efficiency Monitoring 3) SCR Conversion Efficiency Monitoring

			<ul style="list-style-type: none">4) DPF Efficiency Monitoring5) NOx Sensor Heater Circuit Check Monitoring6) Vehicle Speed Sensor Communication Monitoring7) DEF Quality Sensor Monitoring8) DEF Pump Temperature Sensor Monitoring9) EGT Sensor Rationality Monitoring10) Turbocharger Speed Sensor Circuit Check Monitoring11) Intake Air Heater Monitoring12) Wait-to-Start Lamp Monitoring13) NMHC Converting Catalyst Conversion Efficiency and Feedgas Generation Threshold Part Method14) Time to Enter Closed Loop DEF Dosing Monitoring15) Warm-Hold Operation Mode Monitoring16) CSERS Monitoring
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APPENDIX D

Additional Reported On-Board Diagnostic (OBD) Noncompliances Template

Volvo Group North America, LLC to fill out this form and submit to CARB for each Additional Reported OBD Noncompliance following or concurrently with submittal of the Emission Modification OBD Demonstration Report or PEVE L3 Testing Report.

OBD Cluster	Name of OBD Noncompliance
1	
2	

Appendix E

Identification of Subject Engines

Model Year	Engine Family	Engine Displacement (Liters)
2010	AVPTH10.8S01	11
2010	AVPTH10.8S02	11
2010	AVPTH12.8S01	13
2010	AVPTH16.1S01	16
2011	BVPTH10.8S01	11
2011	BVPTH10.8S02	11
2011	BVPTH12.8S01	13
2011	BVPTH12.8S02	13
2011	BVPTH16.1S01	16
2012	CVPTH10.8S01	11
2012	CVPTH10.8S02	11
2012	CVPTH12.8S01	13
2012	CVPTH16.1S01	16
2013	DVPTH10.8S01	11
2013	DVPTH12.8S01	13
2013	DVPTH16.1S01	16
2014	EVPTH10.8G01	11
2014	EVPTH12.8G01	13
2014	EVPTH16.1G01	16
2015	FVPTH10.8G01	11
2015	FVPTH12.8G01	13
2015	FVPTH16.1G01	16
2016	GVPTH10.8G01	11
2016	GVPTH12.8G01	13
2016	GVPTH16.1G01	16

APPENDIX F

Extended Warranty and Warranted Parts List

Subject to standard limitations that must be identified to Eligible Owners and Eligible Lessees, which may set forth exclusions like accident, abuse, neglect, or installation of unexempted parts (as that term is described in 13 C.C.R 2036(d)(10)), and applicable existing warranty provisions that will remain in effect, the Extended Warranty shall cover the cost of all parts and labor needed to repair the parts listed below for three (3) years from the date of installation of the Approved Emission Modification, regardless of mileage on the vehicle.

Additionally, the Extended Warranty shall cover the cost of any OBD diagnostic scan for malfunctions that trigger the OBD malfunction indicator light (MIL), regardless of whether the malfunction is attributable to a part that is covered under the Extended Warranty.

- NOx sensors (including engine out and system out)
- Exhaust temperature sensors
- Diesel Exhaust Fluid (DEF) system, including:
 - DEF injector
 - DEF injector controller
 - DEF storage tank
 - DEF delivery lines
 - DEF quality sensor
 - DEF supply module pump, and temperature sensor unit

As specified in Paragraph 28.a. of the Settlement Agreement, before installing the Approved Emission Modification on an Eligible Vehicle or on an Equivalent Vehicle, Volvo may exclude from the Extended Warranty any part covered under the Extended Warranty that is illuminating the MIL at the time the Eligible Vehicle or Equivalent Vehicle is brought in for the Approved Emission Modification (the "problem part"). Volvo shall notify the Eligible Owner, Eligible Lessee, Equivalent Vehicle owner, or Equivalent Vehicle lessee, of the excluded Extended Warranty provision before installing the Approved Emission Modification, and allow the Eligible Owner or Eligible Lessee an opportunity to remedy the issue prior to installation of the Approved Emission Modification. If the Eligible Owner or Eligible Lessee elects to repair the problem part before the Approved Emission Modification is installed, the Extended Warranty shall apply and remain fully in effect once the Approved Emission Modification has been installed. Volvo shall not exclude any part

from coverage under the Extended Warranty if an Eligible Vehicle or Equivalent Vehicle that previously illuminated the MIL for an Extended Warranty part is brought in for the Approved Emission Modification and that part is no longer illuminating the MIL.