March 7, 2012

SUBMITTED ELECTRONICALLY

Clerk of the Board
Air Resources Board
1001 I Street
Sacramento, California 95814

Subject: Advanced Clean Car Regulations Proposed 15-Day Changes

To Whom It May Concern:

I am writing on behalf of the Alliance of Automobile Manufacturers (Alliance), a trade association of 12 car and light-truck manufacturers representing over 75 percent of the new vehicle market. The Alliance appreciates the opportunity to provide additional comments on this important rulemaking. We provided extensive comments on the Advanced Clean Car Initial Statement of Reasons (ISOR), and this letter provides our comments and recommendations on the changes contained in the ARB Advanced Clean Car 15-Day Notice issued February 22, 2012. In addition, we continue to have comments on the test procedures, including those detailed in Attachment 4 of our comments on the ISOR.

1. **MDPVs in 2014 (15-Day Notice, Enc A, §1961(b)(1)(A) footnote 1, Page A-7; and Enc B, page B-4)**: This footnote applies only to the 2014MY fleet and allows manufacturers to comply with either the LEV III NMOG+NOx fleet average in 1961.2(b)(1)(A) or the LEV II NMOG fleet average specified therein. LEV II does not require MDPVs in the LDT2 fleet average; however, it appears that it was inadvertently included in the change to this section.

   We recommend deleting "MDPV" as noted below. The same change is needed in Enc B, on page B-4. In addition, it appears that the word "life" should be added in between "useful" and "standards".

Figure 1: MDPVs in 2014MY

[1] For the 2014 model year only, a manufacturer may comply with the fleet average NMOG+NOx values in subsection 1961.2(b)(1)(A) in lieu of complying with the NMOG fleet average values in this table. A manufacturer must either comply with the NMOG+NOx fleet average requirements for both its PC/LDT1 fleet and its LDT2/MDPV fleet or comply with the NMOG fleet average requirements for both its PC/LDT1 fleet and its LDT2/~~MDPV~~ fleet. A manufacturer must calculate its fleet average NMOG+NOx values using the applicable full useful standards.

2. **Vehicle Emission Credit Multiplication Factors (15-Day Notice, Enc A, 1961.2(c)(2)(A), page A-30)**: The multiplication factors used to calculate Vehicle emission credits (VECs) for medium duty vehicles were revised downward in the 15-Day Notice from the ISOR language. Some of the changes reduce the VECs a manufacturer could receive for a vehicle by 5 percent, effectively increasing stringency. We recommend retaining the values contained in the ISOR, since those were the values upon which industry and ARB worked to develop the regulations.

3. **NMOG+NOx Contribution Factors (15-Day Notice, Enc A, §1961.2 (b)(1)(B)2, page A-24 and 1961.2(c)(2)(B), page A-31)**: We understand that these equations (and the additional language added in the 15-Day Notice) were developed to ensure that when calculating fleet average, the value used for an off-vehicle charge capable vehicle (PHEV) could never be below the next lowest certification level (e.g., a ULEV 125 could never be calculated to have emissions below a ULEV70). While we understand the rationale, it is possible that real-world emissions from a PHEV could be significantly below the next lowest emissions category. For example, if a ULEV70 PHEV operates 70 percent of the time in all electric mode, its real-world emissions would be about 21 mg/mile (~SULEV 20 or SULEV30). However, it would be considered a ULEV50 as currently proposed. We believe the NMOG+NOx Contribution factor should represent real-world operations and that ARB should allow the Zero Emission VMT Allowance to exceed 1.0. Among other benefits, this would encourage manufacturers to reduce vehicle emissions by providing the appropriate credit for vehicles that overachieve. We would like to work with ARB staff to develop appropriate values that represent real-world emissions.

4. **PZEV Anti-Backsliding Exhaust SULEV Requirement (15-Day Notice, Enc A §1961.2(b)(2), page A-22)**: ARB staff has expressed concerns that manufacturers could reduce the percentage of SULEVs and zero evap vehicles offered for sale while the LEV III regulations are being phased in. We understand this concern and agreed to the PZEV anti-backsliding provisions in the exhaust and evaporative sections of the regulation. Upon further review, however, manufacturers are concerned that the absolute percentage requirement for SULEV certified vehicles could be problematic if the markets unexpectedly shift (as was the case in 2008-2009). As written, while the minimum percentage can be based on projected sales, compliance is based on vehicles sold. To avoid this concern, we recommend one of two approaches:

    a. Comply based on projected vehicle sales. This ensures that manufacturers make a good faith effort to meet the requirement, but would not result in a manufacturer being out of compliance if actual sales do not achieve the projections.

b. Base compliance on a 3-year average (2018-2020) (this was the approach used for the evaporative emission regulations). This would allow manufacturers to make up any shortfall in SULEV vehicles in a subsequent model year.

5. **<u>Evaporative Emission Ethanol Calculations (15-Day Notice, Enc D, Part III.11.3.2, page D-14)</u>**: This section of the test procedures was revised to include equations and instructions for measuring evaporative emissions with fuel containing ethanol. Specifically, Part III.11.3.2 contains the final equations for calculating mass emissions from the Hot Soak, Diurnal, and Running Loss test. The recent EPA GHG, and the existing ARB and EPA regulations use the pre-carbon factors in their equations. To minimize confusion, we recommend ARB maintain this common convention. Additionally, the 10^{-6} multiplication factor may represent an error in the equation. Instead of the proposed equations, we recommend the following equations:

   (1) $Mhs = MHChs + (14.2284/23.034)*M_{C2H5OHhs}$

   (2) $Mdi = MHCdi + (14.3594/23.034)*M_{C2H5OHdi}$

   (3) $Mrl = MHCrlt + (14.2284/23.034)*M_{C2H5OHrlt}$

6. **<u>SFTP Fixed Speed Cooling Fan Maximum Air Flow (15-Day Notice, Section 100.5.5.2, page C35 and Section 100.5.5.4 para 2.2.2, page C36)</u>**: This section was revised to allow a road speed modulated fan in addition to a fixed speed cooling fan. However, in modifying 40CFR159-08(b)(9), ARB did not include the fixed speed fan maximum discharge flow rate of 15,000 cfm. We recommend retaining the requirement for maximum discharge flow rate in 40CFR159-08(b)(9).

7. **<u>Chassis Certification of MDVs (15-Day Notice, Enc A, §1961.2 paragraph 3, page A-8; and ISOR Att D, Section E paragraph 2, page D-4)</u>**: This paragraph (copied below) appears to require that all MDVs <u>≤</u> 10,000 pounds GVWR to chassis certify to the LEV III requirements starting in 2015MY. We understood that ARB would require MDVs <u>≤</u> 10,000 pounds GVWR to chassis certify to the LEV III standards starting in 2022MY (as proposed in the ISOR Att D, Test Procedures also copied below). However, even the language in the ISOR Att D, Test Procedures is somewhat confusing, since it discusses LEV II, LEV III, and various MDV weights. To clarify the intent, we recommend adding the following statement in both the 1961.2 regulations as well as in the test procedures:

   "For the 2015 through 2021 model years, manufacturers have the option to chassis or engine cert medium duty vehicles less than 14,000 pounds GVWR. Beginning in the 2022 model year, all medium-duty vehicles less than or equal to 10,000 pounds GVWR must certify to LEV III chassis regulations" or words to this effect. This should be included in both the 1961.2 regulations as well as in the test procedures."

Figure 2: MDV Chassis Cert 1961.2 Introduction

A manufacturer has the option of certifying engines used in incomplete and diesel medium-duty vehicles with a gross vehicle weight rating of greater than 10,000 lbs. GVW to the heavy-duty engine standards and test procedures set forth in title 13, CCR, subsections 1956.8(c) and (h). All medium-duty vehicles with a gross vehicle weight rating of less than or equal to 10,000 lbs. GVW, including incomplete otto-cycle medium-duty vehicles and medium-duty vehicles that use diesel cycle engines, must be certified to the LEV III chassis standards and test procedures set forth in this section 1961.2.

Figure 3: MDV Chassis Cert ISOR Test Procedures

For the 2015 through 2021 model years, a manufacturer has the option of certifying LEV II engines used in incomplete Otto-cycle and incomplete diesel medium-duty vehicles with a gross vehicle weight rating of greater than 8,500 lbs. GVW to the heavy-duty engine standards and test procedures set forth in title 13, CCR, sections 1956.8(c) and (h). All 2015 through 2021 model LEV II medium-duty vehicles with a gross vehicle weight rating of less than or equal to 8,500 lbs. GVW and all LEV III medium-duty vehicles with a gross vehicle weight rating of less than or equal to 10,000 lbs. GVW, including incomplete Otto-cycle medium-duty vehicles and medium-duty vehicles that use diesel cycle engines, must be certified to the chassis standards and test procedures set forth in this section E. For the 2022 and subsequent model years, a manufacturer has the option of certifying LEV III engines used in incomplete Otto-cycle and incomplete diesel medium-duty vehicles with a gross vehicle weight rating of greater than 10,000 lbs. GVW to the heavy-duty engine standards and test procedures set forth in title 13, CCR, sections 1956.8(c) and (h). All 2022 and subsequent model medium-duty vehicles with a gross vehicle weight rating of less than or equal to 10,000 lbs. GVW, including incomplete Otto-cycle medium-duty vehicles and medium-duty vehicles that use diesel cycle engines, must be certified to the LEV III chassis standards and test procedures set forth in this section E.

8. **Early compliance to LEV III MDV – VECs**: As noted on other portions of the regulations, we would like the option to comply with the LEV III regulations beginning in 2014MY. We appreciate all of the changes that ARB Staff has made to accommodate this request and it appears that the regulations accommodate optional early compliance for all of the PC/LDT requirements. There does not appear to be a method of calculating VECs for optional early compliance. We recommend the following changes that clarify the early compliance option for MDVs:

    a. **SFTP (ISOR, App A, A-47, (a)(7)(c))**: Add similar language from LD SFTP (a)(7)(a) to (a)(7)(c) to allow manufacturers optional early compliance with LEV III MDV SFTP in MY14 or MY15.

    b. **FTP (ISOR, App A, A-59, (b)(3)(A))**: Modify the table, similar to the changes made for PC/LDT/MDPV table in (b)(1)(A), to allow manufacturers optional early compliance with LEV III in MY14 or MY15 for MDV's.

    c. **FTP (ISOR App A, A-56, (b)(1)(B)1.c)**: Add a footnote to the table in this section to allow the table to be used for MY14.

    d. **FTP (15 Day Notice, Enc A, A-27, (b)(3)(c))**: Modify the text and/or table to allow optional early compliance in MY14 and MY15.

e. **FTP – for both LDV and MDV (ISOR, App A, A-65, (c)(3)(B))**: This section allows credits to be carried over for five years. We understand that this provision applies to credits earned under §1961.2 (LEV III credits), this specific paragraph is silent on the start date. For clarity, we recommend adding language to clarify that this paragraph applies to credits generated under §1961.2 including credits generated in 2014MY.

f. **FTP – for both LDV and MDV (ISOR, App A, A-65, (c)(4))**: Similar to the previous comment we recommend adding language to allow manufacturers to convert their credits early if they choose to optionally comply with the LEV III requirements in 2014MY. Additionally, we recommend adding language to convert LEV II VEC credits/debits to LEV III (1.0 multiplier) credits. These credits would still be under the LEV II discount provisions at the end of paragraph (c)(4) "These credits and debits are subject to the provisions in subsection 1961(c)(3)."

g. **FTP (15-Day Notice, Enc A, (c)(2)(A), page A-30)**: To accommodate early compliance, the VEC equations in this section would need to include LEV II, ULEV II and SULEV II.

9. **High-Mileage Testing (ISOR App D (test procedures), Part 1, Section I, paragraph 1.1.3, Page I-1)**: This paragraph specifies the minimum mileage for high-mileage testing. Minimum mileage has been 75 percent of useful life, or 112,500 miles for a vehicle certified to 150,000 miles. However, simply procuring customer owned vehicles meeting the requirements for testing with such high mileage is very difficult. Consequently, we recommend specifying a minimum odometer mileage of 105,000 miles (i.e., replacing "112,500" with "105,000" below):

Figure 4: High-mileage testing 105,000 miles

> 1.1.3 **High Mileage Testing.** Amend subparagraph (c)(2) of 40 CFR §86.1845-04 to read as follows: All test vehicles certified to the emission standards in Part I, Section E.1.1.1 of these procedures must have a minimum odometer mileage of 50,000 miles. At least one vehicle of each test group certified to the emission standards in Part I, Section E.1.1.1 of these procedures must have a minimum age and odometer mileage of 75,000 for light-duty vehicles and 90,000 miles for medium-duty vehicles. All test vehicles certified to the emission standards in Part I, Section E.1.1.2 of these test procedures must have a minimum age and odometer mileage of 112,500 miles. See §86.1838-01(c)(2) for small volume manufacturer mileage requirements.

10. **Allow option to certify vehicles >14k in a 10-14k chassis test group (ISOR App D, Part I, A.1.1.3(b), pages A-1 and A-2)**: Depending on their intended use, some vehicles have gross vehicle weight ratings (GVWR) that span both below 14,000 pounds (i.e., MDV) and above 14,000 pounds (i.e., HDV). Since additional testing is burdensome, particularly in cases where the vast majority of these vehicles fall below 14,000 pounds, manufacturers would like the option to certify all of these vehicles to the <14,000 pound (MDV) requirements. We recommend inserting, "Manufacturers may optionally certify heavy-duty vehicles of 14,000 pounds GVWR or greater to the 10,001 - 14,000 pounds GVWR standards and test

procedures in section E.1 of these test procedures" at the end of Section A.1.1.3, shown here.

Figure 5: Certify >14k GVWR with 10-14K Test Group

1.1.3 Amend subparagraph (c) *Optional Applicability* as follows:
(a) Subparagraph (c)(1) [n/a]
(b) Amend subparagraph (c)(2) as follows: A manufacturer must certify any heavy-duty complete Otto-cycle vehicle or complete diesel vehicle of 14,000 pounds Gross Vehicle Weight Rating (GVWR) or less and any medium-duty passenger vehicle in accordance with the medium-duty chassis-standards of section E.1 of these test procedures. For the 2015 through 2021 model years, a manufacturer must certify all LEV II heavy-duty engines or vehicles of 14,000 pounds GVWR or less, excluding medium-duty passenger vehicles, to the medium-duty engine standards in title 13, CCR, section 1956.8 (c) or (h), as applicable. For the 2022 and subsequent model years, a manufacturer must certify any heavy-duty vehicle of 10,000 pounds GVWR or less, including incomplete Otto-cycle vehicles and incomplete heavy-duty diesel vehicles, in accordance with the LEV III medium-duty chassis-standards of section E.1 of these test

11. **ORVR Certification of Vehicles > 14,000 pounds GVWR (ISOR, §1978)**: The Alliance submitted comments to the ISOR regarding on-board refueling vapor recovery (ORVR) requirements for incomplete vehicles ≤ 14,000 pounds GVWR. We appreciate the work by ARB staff to address our comments. However, we would request ARB confirm that §1978 does not apply to vehicles > 14,000 pounds GVWR and that there are no ORVR requirements for these vehicles (either complete or incomplete).

12. **Federally certified vehicles (ISOR, App D, H 1.4.1, Page H-2)**: This section requires manufacturers to test federal vehicles to the 50°F, California SFTP and California highway NMOG+NOx standards (see Figure 6). The old requirements (App C, Section H 1.5.1, Page 31) did not require 50°F testing and provided for compliance with federal SFTP and federal NOx standards (see Figure 7). The new regulation would require manufacturers to recertify federally certified vehicles to 50F, California SFTP and California highway NMOG+NOx standards even if the vehicle is being carried over. We do not believe this is ARB staff's intent, and recommend revising the regulation to allow carry-over of federally certified vehicle data and require 50°F, California SFTP and California highway NMOG+NOx testing only on new vehicle certifications. ARB could implement this by revising paragraph 1.4.1 as follows:

"…and emissions warranty, except that 50°F, California SFTP and California highway NMOG+NOx testing is not required for vehicles that certify using "carryover" data in accordance with U.S. EPA OMS Advisory Circular A/C No. 17F."

Figure 6: New requirements for Federally Certified Vehicles

1.4.1 If a federally-certified vehicle model is certified in California in accordance with subparagraph 1.4, the model shall be subject to the federal requirements for FTP exhaust emissions and cold CO emissions. The vehicle model shall be subject to all other California requirements including evaporative emissions, OBD II, SFTP emissions, 50°F exhaust emissions, highway NMOG+NOx emissions, greenhouse gas emissions, and emissions warranty.

Figure 7: Old requirements for Federally Certified Vehicles

1.5.1 If a federally-certified vehicle model is certified in California in accordance with subparagraph 1.45, the model shall be subject to the federal requirements for exhaust emissions, SFTP emissions, cold CO emissions and highway NOx. The vehicle model shall be subject to all other California requirements including evaporative emissions, OBD II, greenhouse gas emissions, and emissions warranty, except that a 2004 or earlier model-year vehicle in the federal heavy light-duty truck or medium-duty passenger vehicle classes may at the manufacturer's option be subject to the federal requirements for evaporative emissions and OBD II.

13. **Emissions 2004-2014MY (ISOR App A, §1961(b)(1)(B)1.c., page A-22)**: This table contains the applicable emission standards to be used in fleet average calculations. The LEV and ULEV 2004-2014 model year vehicles certified to the optional 150,000 mile "LEV II" standards were increased from 0.06 to 0.064 (LEV) and from 0.03 to 0.034 (ULEV). This represents a 13 percent increase for ULEV and 6.7 percent increase for LEVs. The changes proposed will only apply to the 2014MY, since the 2013MY is already underway and the regulations cannot be applied retroactively. Consequently, we see no benefit to the proposed change and recommend ARB eliminate this change.

14. **2018 PM review (Board Resolution, page 21)**: In the 16-Feb-2012 Board Resolution, "the Board directs the Executive Officer to conduct a review of the 1 mg/mile PM in the 2015 timeframe and to report back to the board on the results." However, the 27-Jan-2012 transcript, page 13 suggests that ARB staff should conduct two reviews one in 2015 and another one in 2018 (see Figure 8). We recommend revising the Board resolution to so reflect.

Figure 8: PM Review Board Transcript page 13

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: So we may ask questions that are obvious to you, but just to make sure it's on the record so that the proposal would be that the staff proposed standard, which is 2025 through '28 for one milligram, that would still be part of the rule and it's a review --

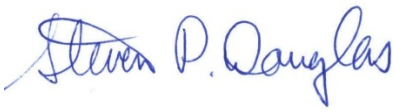
CHAIRPERSON NICHOLS: Correct. We're not changing the regulation --

CHIEF DEPUTY EXECUTIVE OFFICER CACKETTE: -- in 2015 and again we'll do one in 2018 to see what the status of technology is then.

CHAIRPERSON NICHOLS: Yes.

We appreciate your consideration and look forward to working with you as we implement these regulations.

Sincerely,



Steven Douglas
Senior Director, Environmental Affairs