State of California
AIR RESOURCES BOARD

Resolution 12-21

March 22, 2012

Agenda Item No.: 12-2-7

CALIFORNIA ADVANCED CLEAN CARS PROGRAM:

"LEV III" AMENDMENTS TO THE CALIFORNIA GREENHOUSE GAS AND CRITERIA POLLUTANT EXHAUST AND EVAPORATIVE EMISSION STANDARDS AND TEST PROCEDURES AND TO THE ON-BOARD DIAGNOSTIC SYSTEM REQUIREMENTS FOR PASSENGER CARS, LIGHT-DUTY TRUCKS, AND MEDIUM-DUTY VEHICLES, AND TO THE EVAPORATIVE EMISSION REQUIREMENTS FOR HEAVY-DUTY VEHICLES

2012 AMENDMENTS TO THE CALIFORNIA ZERO-EMISSION VEHICLE PROGRAM REGULATIONS

2012 AMENDMENTS TO THE CLEAN FUELS OUTLET REGULATIONS

WHEREAS, sections 39600 and 39601 of California's Health and Safety Code authorize the Air Resources Board (ARB or Board) to adopt standards, rules and regulations and to do such acts as may be necessary for the proper execution of the powers and duties granted to and imposed upon the Board by law;

WHEREAS, in section 43000 of the Health and Safety Code, the Legislature has declared that the emission of air pollutants from motor vehicles is the primary cause of air pollution in many parts of the State, and sections 39002 and 39003 of the Health and Safety Code charge the Board with the responsibility of air pollution control from motor vehicles;

WHEREAS, sections 43013, 43101, and 43104 of the Health and Safety Code authorizes the Board to adopt emission standards and test procedures to control air pollution caused by motor vehicles;

WHEREAS, section 43018(a) of the Health and Safety Code directs the Board to endeavor to achieve the maximum degree of emission reduction possible from vehicular and other mobile sources in order to accomplish the attainment of State ambient air quality standards at the earliest practicable date;

WHEREAS, section 43018(c) of the Health and Safety Code provides that in carrying out section 43018, the Board shall adopt standards and regulations that will result in the most cost-effective combination of control measures on all classes of motor vehicles and motor vehicle fuel, including but not limited to reductions in motor vehicle exhaust and evaporative emissions, and reductions in in-use vehicular emissions through durability, performance improvements, and specification of vehicular fuel composition;

WHEREAS, section 39667 of the Health and Safety Code directs the Board to consider revisions to ARB's emissions standards for vehicular sources to achieve the maximum possible reduction in public exposure to substances that the Board has identified as toxic air contaminants pursuant to section 39662 of the Health and Safety Code; such regulations affecting new motor vehicles are to be based on the most advanced technology feasible for the model-year and may include, but are not limited to, the required installation of vehicular control measures on new motor vehicles;

WHEREAS, the Board's California State Implementation Plan (SIP) for ozone establishes the State strategy for attaining the ambient air quality standard for ozone in all areas of the State as required by federal law; as part of the mobile source element developed by ARB, the SIP relies on the California Low-Emission Vehicle (LEV) program to provide significant reductions of ozone precursor pollutant emissions from passenger cars and light-duty trucks; and to reach the 1997 ozone standard by the attainment date in 2023, oxides of nitrogen (NOx) emissions in the greater Los Angeles region must be reduced by two-thirds, even after considering all of the regulations in place today with the most significant share of needed emission reductions coming from long-term advanced clean air technologies;

WHEREAS, California's passenger cars and light-duty trucks are the single largest contributor of greenhouse gas emissions in the State, producing approximately 30 percent of all such emissions;

WHEREAS, California enacted Assembly Bill (AB) 1493 (Pavley) (codified at Health and Safety Code section 43018.5), which directs the Board to develop and adopt regulations that achieve the maximum feasible and cost-effective reductions of greenhouse gas emissions from motor vehicles, beginning with the 2009 model year;

WHEREAS, in recognition of the devastating impacts of climate change emissions on California, Governor Arnold Schwarzenegger, in June 2005, enacted Executive Order S-3-05 which established the following greenhouse gas emission targets:

- By 2010, reduce greenhouse gas emissions to 2000 levels;
- By 2020, reduce greenhouse gas emissions to 1990 levels; and
- By 2050, reduce greenhouse gas emission 80 percent below 1990 levels.

WHEREAS, the Legislature enacted the California Global Warming Solutions Act of 2006 (AB 32; Health and Safety Code section 38500 et seq.), which declares that global warming poses a serious threat to the environment of California and creates a comprehensive multi-year program to reduce greenhouse gas emissions that cause global warming;

WHEREAS, in December 2008, the Board considered a Scoping Plan to chart ARB's course toward meeting the requirements of the Global Warming Solutions Act of 2006;

WHEREAS, the AB 32 Scoping Plan identifies "California Light-Duty Vehicle Greenhouse Gas Standards," which include both implementation of the current "Pavley" standards and the development of the proposed "Pavley II light-duty vehicle standards,"

as part of the "Recommended Greenhouse Gas Reduction Measures" for reducing California's greenhouse gas emissions to 1990 levels by 2020;

WHEREAS, staff has completed proposed Final Regulation Orders for the Advanced Clean Car Program for California which combines the control of smog-causing pollutants and greenhouse gas emissions into a single coordinated package of amendments and requirements for model year 2015 through 2025, including a new iteration of the LEV criteria pollutant and greenhouse gas standards (LEV III), Zero-Emission Vehicle (ZEV) regulations, and Clean Fuels Outlet regulation;

WHEREAS, the proposed Final Regulation Orders for amendments to the low-emission vehicle regulations and incorporated documents, as set forth in Attachment A hereto include the following primary elements:

A reduction of fleet average emissions of new passenger cars, light-duty trucks, and medium-duty passenger vehicles to super-ultra-low-emission vehicle (SULEV) levels by 2025;

Replacement of separate Non-Methane Organic Gases (NMOG) and NOx standards with combined NMOG plus NOx standards, which provides automobile manufacturers with additional flexibility in meeting the new stringent standards;

An increase of full useful life durability requirements from 120,000 miles to 150,000 miles, which guarantees vehicles operate longer at these extremely low emission levels;

A backstop to assure continued production of super-ultra-low-emission vehicles after Partial Zero-Emission Vehicle (PZEV) as a category is moved from the Zero-Emission Vehicle program to the LEV program in 2018;

More stringent particulate matter standards for light- and medium-duty vehicles, which will reduce the health effects and premature deaths associated with these emissions;

Zero fuel evaporative emission standards for passenger cars, light-duty trucks, medium-duty vehicles, and heavy-duty vehicles;

More stringent supplemental federal test procedure (SFTP) standards for passenger cars and light-duty trucks and, for the first time, require medium-duty vehicles to meet SFTP standards;

More stringent "footprint-based" greenhouse gas emission standards that are comprised of three emission standards: a carbon dioxide (CO_2) standard, a methane (CH_4) standard and a nitrous oxide (N_2O) standard;

Greenhouse gas emission credits for: (1) improvements to the vehicle air conditioning system (either from the use of a refrigerant with a low Global Warming Potential or by incorporating improvements to the efficiency of the

system); (2) technologies that reduce CO_2 emissions but are not measured on the applicable test cycles; and (3) technology innovations on the largest of pickup trucks;

Greenhouse gas emissions values for electric vehicles, plug-in electric vehicles, and fuel cell vehicles that reflect their upstream emissions;

Minor modifications to California's on-board diagnostic (OBD II) regulations;

Changing the certification gasoline specifications to be more representative of current in-use fuel; and

Allow use of the revised federal Fuel Economy and Environmental Label to substitute for the California Environmental Performance Label.

WHEREAS, the proposed Final Regulation Order for substantial amendments to the ZEV regulation and to the ZEV Standards and Test Procedures, as set forth in Attachment B hereto include the following primary elements for model years 2012 through 2017:

Changing and simplifying the nomenclature for plug-in hybrid electric vehicles and hydrogen internal combustion engine vehicles from Enhanced Advanced Technology Partial Zero Emission Vehicles (Enhanced AT PZEV) to Transitional Zero-Emission Vehicles (TZEV), for 2012 and subsequent model years;

Extending the travel provision for Battery Electric Vehicles (BEVs), which allows ZEVs placed in any state that has adopted the California ZEV regulation to count towards the ZEV regulation through 2017;

Providing flexibility for intermediate-volume manufacturers (IVMs) by reducing their overall requirement in 2015 through 2017 model years, to allow these manufacturers to prepare for requirements beginning in model year 2018;

Increasing credits for Type V (300 mile Fuel-Cell Vehicle (FCV)) ZEVs to appropriately incentivize this longer term technology;

Adding Type I.5x and Type IIx vehicles, which are both range extended BEVs (i.e. BEVx vehicles which are BEVs with a backup auxiliary power unit, which does not operate until the energy storage device is fully depleted) as a compliance option for manufacturers to meet up to half of a manufacturer's requirement that must be met with pure ZEVs; and

Removing carry forward credit limitations for ZEVs, allowing manufacturers to bank ZEV credits indefinitely for use in later years.

WHEREAS, the proposed Final Regulation Order for substantial amendments to the ZEV regulation and to the ZEV Standards and Test Procedures, as set forth in

Attachment B hereto include the following primary elements for 2018 and subsequent model years:

Increasing the overall ZEV requirements in 2018 and subsequent model years, by modifying the credit percentage requirement and decreasing the number of credits earned per vehicle;

Focusing the regulation on long term greenhouse gas reduction technologies, which are ZEV and TZEVs, and by removing PZEV and Advanced Technology (AT) PZEV credits compliance options for manufacturers, and allowing manufacturers to use banked PZEV and AT PZEV credits, at a discounted rate, to offset a portion of their obligation that may be met with TZEVs;

Amending IVM and Large Volume Manufacturer (LVM) size definitions to bring all but the smallest manufacturers under the full ZEV requirements by model year 2018;

Basing credits for ZEVs on a linear function of zero emission range on the urban dynamometer drive schedule (UDDS), with 50 mile BEVs earning 1 credit each and 350 mile FCVs earning 4 credits each;

Simplifying and streamlining TZEV credit based on the vehicle's zero-emission range capability, and ability to perform 10 miles on the more aggressive US06 drive schedule;

Adding BEVxs as a compliance option for manufacturers to meet up to half of a manufacturer's requirement that must be met with pure ZEVs;

Removing carry forward credit limitations for ZEVs, allowing manufacturers to bank ZEV credits indefinitely for use in later years;

Ending the travel provision for BEVs after model year 2017, and extending the travel provision for FCVs until sufficient complementary policies are in place in states that have adopted the California ZEV regulation; and

Allowing manufacturers who systematically over-comply with the proposed LEV III greenhouse gas fleet average standards to offset a portion of their ZEV regulation requirements in only 2018 through 2021 model years.

WHEREAS, the proposed Final Regulation Order for amendments to the Clean Fuels Outlet regulations and incorporated documents, as set forth in Attachment C hereto; these amendments include the following primary elements:

Changing the types of alternative fuel vehicles subject to the regulation to only those certified as ZEV when operating on the designated clean fuel;

Adding a regulatory review for plug-in electric vehicles, which requires ARB to evaluate the development and usage of workplace and public charging

infrastructure and make recommendations for further actions, to address the concern that electricity fuel and battery electric ZEVs are excluded from the regulation;

Shifting the requirement to equip clean fuel outlets (CFO) onto major refiner/importers of gasoline to evenly distribute the outlet requirement among the parties that continue to benefit from California's use of gasoline even though they have divested in the retail aspect of the gasoline supply chain;

Modifying how the number of new CFOs is calculated to account for the fuel requirements of hydrogen FCVs, and modify how stations are allocated among the regulated parties to be based on their share of the gasoline market;

Adding a year to auto manufacturer's fuel cell vehicle reporting requiring projections three years into the future and by air basin, and adding a year to the compliance timeframe for building outlets to provide additional time for locating, permitting, and building outlets;

Adding a lower regional activation trigger of 10,000 vehicles projected to be sold or leased within an air basin to align with auto manufacturers' early commercialization plans to market fuel cell vehicles in regional clusters;

Streamlining the compliance requirements to be less prescriptive and more like performance standards, giving the regulated party the flexibility to determine how best to meet the requirements;

Increasing the penalty for failing to install CFOs and adding a penalty provision for auto manufacturers failing to deliver for sale or lease 80 percent or more of their projected number of fuel cell vehicles; and

Lowering the regulation sunset provision to five percent of the total number of retail gasoline outlets based (i.e. sunsets when the five percent reached) on staff's findings that, at or before five percent station saturation, hydrogen fueling infrastructure can achieve commercial viability.

WHEREAS, in developing the proposed amendments staff conducted numerous public workshops, released concepts for public review, and held several focused stakeholder meetings throughout the rulemaking process, in order to involve the public and affected stakeholders in the regulatory development process;

WHEREAS, in developing the amendments to the CFO Regulation, staff worked in parallel with affected stakeholders to create a collaborative agreement approach to ensuring adequate hydrogen fueling infrastructure and as a result developed a draft framework for a memorandum of agreement (MOA). The framework for this MOA would have the signing parties work together to create an incentive fund to support establishment of hydrogen stations. The goal of this MOA would be to create a network of at least 100 stations with the cost of support estimated at $100 million;

WHEREAS, the LEV III/GHG and ZEV regulations, as proposed for amendment in their respective Final Regulation Orders, have no regulatory text dependent on, and do not otherwise immediately require, implementation and enforcement of the proposed amendments to the CFO regulations, though the fueling infrastructure that will flow from the CFO regulation amendments may ultimately be needed as the ZEV regulation causes an increase in the demand for access to clean fueling infrastructure;

WHEREAS, staff believes the Board intends for the amended LEV III/GHG and ZEV regulations to be implemented and enforced, including but not limited to requesting and receiving any necessary Clean Air Act waiver prefatory thereto, regardless of the status or enforceability of the CFO regulations as amended;

WHEREAS, staff prepared three separate Regulatory Notices and Staff Reports: Initial Statement of Reasons (ISOR) for these amendments and presented them to the Board with a single coordinated analysis of emissions, cost, and associated environmental impacts and benefits;

WHEREAS, a public hearing and other administrative proceedings have been held in accordance with the provisions of chapter 3.5 (commencing with section 11340), part 1, division 3, title 2 of the Government Code;

WHEREAS, at a public hearing held January 26-27, 2012, the Board considered the proposed regulations for the Advanced Clean Cars Program. The Board considered the ISORs released on December 7, 2011, and directed several modifications either as proposed by staff, or in response to public comments. As a result, on February 22, 2012 a Notice of Public Availability of Modified Text and Availability of Additional Documents (15-Day Change Notice) was issued. The public comment period for the 15-Day Change Notice ended at 5:00 p.m. on March 8, 2012;

WHEREAS, pursuant to section 11346.9 of the Government Code, staff is preparing three separate Final Statement of Reasons with responses to comments received on the record during the initial 45-day comment period, comments presented at the January 26-27 Board hearing both orally and in writing, and comments received during the 15-day Change Notices released February 22, 2012;

WHEREAS, the Board has considered the impact of this proposed regulatory action on the economy of the State;

WHEREAS, the Board has considered the community impacts of the Final Regulation Orders, including environmental justice concerns;

WHEREAS, in consideration of the proposed Final Regulation Orders, written comments, and public testimony it has received to date, the Board finds that:

The amendments proposed herein to the LEV regulations, ZEV regulations, and Clean Fuels Outlet regulations are necessary and appropriate to assure that California continues to receive the cleanest light- and medium-duty vehicles available;

The proposed Clean Fuels Outlet Regulations are necessary and appropriate because consumers will need ready access to fuel for zero-emission vehicles in order to achieve the required emission reductions;

The staff's recommended modifications to the originally proposed LEV III amendments, ZEV amendments, and Clean Fuel Outlet amendments are appropriate to provide additional flexibility, help assure adequate lead time, and minimize cost to manufacturers;

It is appropriate to accept compliance with the 2017 through 2025 model year National Program as compliance with California's greenhouse gas emission standards in the 2017 through 2025 model years, once United States Environmental Protection Agency (U.S. EPA) issues their Final Rule on or after its current July 2012 planned release, provided that the greenhouse gas reductions set forth in U.S. EPA's December 1, 2011 Notice of Proposed Rulemaking for 2017 through 2025 model year passenger vehicles are maintained, except that California shall maintain its own reporting requirements; and

Based on the foregoing description of technical studies and the analyses performed for the Advanced Clean Cars ISOR, all of the proposed amendments are necessary, appropriate, cost-effective, and technologically feasible.

WHEREAS, the Board further finds that:

While the California motor vehicle emissions regulations as proposed herein are different from the federal regulations administered by U.S. EPA, the proposed California regulations herein are authorized by State law:

The amendments proposed herein are part of the Advanced Clean Cars Program, which will reduce criteria pollutants (47 tons of ROG per day, 51 tons of NOx per day, and 3 tons of particulate matter (PM2.5) per day in 2035) and will prevent premature deaths in California and help achieve attainment of ambient air quality standards;

The Advanced Clean Cars Program will also reduce greenhouse gas emissions as follows: by 2025, CO_2 equivalent emissions will be reduced by 13 million metric tons (MMT) per year, which is 12 percent from baseline levels; the reduction increases in 2035 to 31 MMT/year, a 27 percent reduction from baseline levels; by 2050, the proposed regulation would reduce emissions by more than 40 MMT/year, a reduction of 33 percent from baseline levels; and viewed cumulatively over the life of the regulation (2017-2050), the proposed Advanced Clean Cars regulation will reduce emissions by more than 850 MMT CO_2 –equivalent, which will help achieve the State's climate change goals to reduce the threat that climate change poses to California's public health, water resources, agriculture industry, ecology, and economy;

The Advanced Clean Cars Program is cost-effective as the average increase in the price of a new vehicle expected in the 2025 model year due to the Advanced

Clean Cars Program is $1,900, and the net lifetime savings for the owners of a new vehicle in the 2025 model year due to the Advanced Clean Cars Program is $4,000; and

The Advanced Clean Cars Program is cost-effective as it is expected to create a total statewide cost savings of $14 billion and result in a net increase of 30,000 California jobs.

WHEREAS, ARB has a regulatory program certified under Public Resources Code section 21080.5, and pursuant to this program ARB conducts environmental analyses to meet the requirements of the California Environmental Quality Act (CEQA);

WHEREAS, pursuant to ARB's certified regulatory program, ARB staff prepared an integrated programmatic environmental analysis (EA) as Appendix B for the proposed amendments to the LEV, ZEV, and Clean Fuels Outlet regulations;

WHEREAS, the EA, which sets forth an evaluation of a full range of environmental impact topics related to implementation of the proposed program, including potential alternatives, was released for public review on December 7, 2011, with a 45-day written comment period from December 12, 2011 to January 26, 2012;

WHEREAS, in Resolution 12-11, the Board directed the Executive Officer to complete the regulatory modifications and the environmental review process in accordance with the requirements of the Administrative Procedure Act and CEQA under ARB's certified regulatory program, and to either take final action to adopt the proposed regulation or return the matter to the Board for further consideration;

WHEREAS, Resolution 12-11 included a provision that allows manufacturers who systematically over-comply with the proposed federal greenhouse gas fleet average standards to offset a portion of their ZEV regulation requirements in 2018 through 2021 model years only, and such over-compliance was referenced in Resolution 12-11 as "ZEV over-compliance", or "ZEV GHG over-compliance";

WHEREAS, in an effort to ensure clarity, all references in Resolution 12-11 to "ZEV over-compliance", or "ZEV GHG over-compliance" should be changed to read: "federal GHG standards over-compliance to offset a portion of ZEV requirements";

WHEREAS, ARB received written and oral comments on the potential environmental impacts of the Advanced Clean Car Program during the initial 45-day public comment period, and the subsequent 15-day comment period associated with the Notices of Public Availability of Modified Text;

WHEREAS, ARB staff has reviewed the comments on the potential environmental impacts received during the comment periods and prepared written responses to these comments;

WHEREAS, on March 12, 2012, ARB released a document entitled *Response to Comments on the Environmental Analysis Prepared for the Advanced Clean Cars Program* (Response to EA Comments), which includes a summary of written comments received on the EA that raise significant environmental issues and staff's written responses and on March 29, 2012 released a revision to one response thereon, all as set forth in Attachment D to this Resolution;

WHEREAS, at a duly noticed public hearing held on March 22, 2012, staff presented the Response to EA Comments to the Board for approval and the Final Regulation Orders for adoption;

WHEREAS, the Board has reviewed and considered the EA and the Response to EA Comments;

WHEREAS, ARB's certified regulatory program provides that prior to taking final action on any proposal for which significant environmental comments have been raised, the decision maker shall approve a written response to each such issue; and

WHEREAS, CEQA and ARB's certified regulatory program require that any proposal for which significant adverse environmental impacts have been identified during the review process shall not be approved if there are feasible mitigation measures or feasible alternatives which would substantially reduce such adverse impacts.

NOW, THEREFORE, BE IT RESOLVED that the recitals and findings contained in Resolution 12-11, are incorporated by reference herein.

BE IT FURTHER RESOLVED that the Board hereby certifies that the EA was completed in compliance with CEQA under ARB's certified regulatory program, reflects the agency's independent judgment and analysis, and was presented to the Board whose members reviewed, considered and approved the information therein prior to acting on the proposed Final Regulation Orders.

BE IT FURTHER RESOLVED that the Board approves the written responses to comments raising significant environmental issues included in the Response to EA Comments.

BE IT FURTHER RESOLVED that in consideration of the EA and the Response to EA Comments, and in accordance with the requirements of CEQA and ARB's certified regulatory program, the Board adopts the Findings and Statement of Overriding Consideration as set forth in Attachment E to this Resolution.

BE IT FURTHER RESOLVED that in an effort to ensure clarity, all references to "ZEV over-compliance", or "ZEV GHG over-compliance" in the Board's Resolution 12-11 are changed to read: "federal GHG standards over-compliance to offset a portion of ZEV requirements."

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to take all necessary action to finalize, implement and enforce the amended LEV III/GHG and ZEV

regulations, including but not limited to requesting and receiving any necessary Clean Air Act waiver prefatory thereto, regardless of the status or enforceability of the CFO regulations as amended;

BE IT FURTHER RESOLVED that the Board adopts amendments to sections 1900, 1956.8, 1960.1, 1961, 1961.1, 1962.1, 1962.2 (renumbered to 1962.3), 1965, 1968.2, 1968.5, 1976, 1978, 2037, 2038, 2062, 2112, 2139, 2140, 2145, 2147, 2235, 2300, 2302, 2303, 2303.5, 2304, 2307 2308, 2309, 2311, 2311.5, 2312, 2313, 2314, 2315, 2317, and 2318; new sections 1961.2, 1961.3, 1962.2, and 2306.1; and repeal sections 2306, 2310, 2316, and 2317, Title 13, California Code of Regulations as set forth in Attachments A, B, and C.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to finalize the FSORs and submit the respective rulemakings as a package to the Office of Administrative Law.

I hereby certify that the above is a true and correct copy of Resolution 12-21, as adopted by the Air Resources Board.

for Lori Andreoni

Mary Alice Morency, Clerk of the Board

Resolution 12-21

March 22, 2012

Identification of Attachments to the Board Resolution

Attachment A: Final Regulation Order and Test Procedures for amendments to the LEV III Regulation as found at: http://www.arb.ca.gov/msprog/levprog/leviii/leviii.htm

Attachment B: Final Regulation Order and Test Procedures for amendments to the ZEV Regulation as found at: http://www.arb.ca.gov/msprog/zevprog/zevprog.htm

Attachment C: Final Regulation Order for amendments to the CFO Regulations as found at: http://www.arb.ca.gov/fuels/altfuels/cf-outlets/cf-outlets.htm

Attachment D: Response to Environmental Analysis Comments as found at:
LEV: http://www.arb.ca.gov/msprog/levprog/leviii/leviii.htm
ZEV: http://www.arb.ca.gov/msprog/zevprog/zevprog.htm
CFO: http://www.arb.ca.gov/fuels/altfuels/cf-outlets/cf-outlets.htm

Attachment E: Findings and Statement of Overriding Considerations.