State of California
AIR RESOURCES BOARD

Resolution 12-11

January 26, 2012

Agenda Item No.: 12-1-2

ADVANCED CLEAN CARS REGULATION PACKAGE:

"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

GENERAL

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 adopted a Scoping Plan to chart ARB's course toward meeting the requirements of the Global Warming Solutions Act of 2006; and

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.

LOW-EMISSION VEHICLE REGULATIONS BACKGROUND

WHEREAS, in a 1998-1999 rulemaking, the Board adopted the "LEV II" amendments to the California Low-Emission Vehicle (LEV) regulations, which include three primary elements: (1) tiers of exhaust emission standards for increasingly more stringent categories of low-emission light- and medium-duty vehicles and tightening standards on sport-utility vehicles; (2) a mechanism requiring each manufacturer to phase-in a progressively cleaner mix of vehicles from year to year with the option of credit trading; and (3) a requirement that a specified percentage of passenger cars and lighter light-duty trucks be zero-emission vehicles (ZEV);

WHEREAS, the LEV II regulations are contained primarily in title 13, California Code of Regulations, sections 1960.1 and 1961, which incorporates by reference the "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles" and the "California Non-Methane Organic Gas Test Procedures"; section 1956.8, which incorporates by reference the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Otto-Cycle Engines" and the "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles"; section 1976, which incorporates by reference the "California Evaporative Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles"; section 1978 which incorporates by reference the "California Refueling Emission Standards and Test Procedures for 2001 and Subsequent Model Motor Vehicles"; and section 2235, which incorporates by reference the "Specifications for Fill Pipes and Openings of Motor Vehicle Fuel Tanks";

WHEREAS, under the LEV II regulations there are four low-emission vehicle categories to which a passenger car, light-duty truck, and medium-duty vehicle are certified: Low-Emission Vehicle (LEV), Ultra-Low-Emission Vehicle (ULEV), Super-Ultra-Low-Emission Vehicle (SULEV), and ZEV;

WHEREAS, the LEV II regulations include separate standards for non-methane organic gas (NMOG) emissions and oxides of nitrogen (NOx) emissions and establish fleet

average NMOG requirements to reduce emissions from new passenger cars and light-duty trucks;

WHEREAS, the full useful life durability requirement for LEV II vehicles is 120,000 miles;

WHEREAS, Partial Zero-Emission Vehicles (PZEV) are SULEVs that receive partial ZEV credit, based on additional criteria set forth in the ZEV regulations, which may be used by a manufacturer to meet a portion of its ZEV obligation;

WHEREAS, the LEV II regulations establish supplemental federal test procedure (SFTP) standards for passenger cars and light-duty trucks, which account for more aggressive real world driving;

WHEREAS, the LEV II regulations establish zero fuel evaporative emission standards for passenger cars and light-duty trucks, which apply to vehicles receiving PZEV credits;

WHEREAS, second generation on-board diagnostics (OBD II) systems are comprised mainly of software designed into LEV vehicles' on-board computer to detect emission control system malfunctions as they occur by monitoring virtually every component and system that can cause an increase in emissions;

WHEREAS, manufacturers recently approached ARB staff and requested OBD II regulation changes that they indicated were needed immediately in order to ensure compliance when they certify their 2013 model year vehicles;

WHEREAS, in response to the manufacturers' requests, staff have agreed to minor changes to the OBD II regulation, which would have negligible emission impact;

WHEREAS, in order to facilitate the marketing of substitute and new clean fuels, in 1993 ARB developed a test procedure, titled "California Test Procedure for Evaluating Substitute Fuels and New Clean Fuels," incorporated by reference in title 13, California Code of Regulations, section 2317, which was designed to assure that any proposed substitute or new clean fuel would not increase emissions from new and used vehicles;

WHEREAS, this fuels test procedure required a specific mix of model year vehicles and the emission standards to which they were to be certified to be included in the demonstration test fleet;

WHEREAS, the test fleet required in the fuels test procedure is no longer representative of vehicles operating on the road today;

WHEREAS, in a 2004 – 2005 rulemaking, the Board adopted the "Pavley regulations," which reduce greenhouse gas emissions from passenger vehicles by approximately 30 percent between 2009 and 2016 by establishing a mechanism requiring each

manufacturer to phase-in a progressively cleaner mix of vehicles from year to year with the option of credit trading;

WHEREAS, the Pavley regulations are contained primarily in title 13, California Code of Regulations, section 1961.1, and in the "California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles" incorporated by reference in section 1961;

WHEREAS, after Board approval in 2004, motor vehicle manufacturers and their trade associations challenged the Pavley regulations in numerous federal and State court proceedings and opposed California's request for a U.S. EPA waiver of preemption under the federal Clean Air Act to allow California to enforce its adopted standards;

WHEREAS, on May 19, 2009, challenging parties, individual automakers, California, and the federal government memorialized commitments to undertake a series of actions to resolve those current and potential future disputes over the California standards through model year 2016;

WHEREAS, the May 19, 2009 commitment letters contained the following commitments and understandings: the U. S. Environmental Protection Agency (U.S. EPA) and the U.S. Department of Transportation (NHTSA) would propose a federal program to reduce greenhouse gases and improve fuel economy, respectively, from passenger vehicles, to achieve equivalent or greater greenhouse gas benefits as the Pavley regulations for the 2012 – 2016 model years; manufacturers and related entities would ultimately drop current, and forego similar future legal challenges, including challenging a waiver grant (which occurred June 30, 2009 (74 Fed.Reg. 32744 (July 8, 2009)); and California would amend the 2009-2016 Pavley regulations to (1) allow manufacturers to demonstrate compliance with the fleet average greenhouse gas emission standard by "pooling" California, the District of Columbia, and Clean Air Act Section 177 State vehicle sales, (2) allow manufacturers to use emission data from the federal Corporate Average Fuel Economy program to demonstrate compliance with the 2009-2016 Pavley regulations, and (3) accept compliance with U.S. EPA-adopted equivalent greenhouse gas standards for 2012-2016 model years;

WHEREAS, in September 2009, the Board approved amendments to the Pavley regulations to address commitments (1) and (2) above made by California; and in February 2010 the Board approved amendments to the Pavley regulations to address the third commitment ((3) above) made by California;

WHEREAS, the Board's decision to modify the Pavley regulations to accept compliance with U.S. EPA-adopted greenhouse gas standards as compliance with California's standards in the 2012 through 2016 model years was premised on U.S. EPA adopting a final rule that preserved the greenhouse gas reduction benefits of the Pavley regulations;
WHEREAS, on September 30, 2010, U.S. EPA and NHTSA issued a Notice of Intent to begin developing new standards for greenhouse gases and fuel economy for passenger vehicles for the 2017 through 2025 model years;

WHEREAS, on October 1, 2010, California agreed to work with the federal government for adoption of federal greenhouse gas emission standards that will meet California and our State partners' needs, and will result in a national fleet of cleaner, more cost-effective vehicles that will meet both federal and California emission requirements;

WHEREAS, California's commitment to work with the federal government in no way relinquished California's right to develop and adopt new greenhouse gas emission standards for 2017 and subsequent model passenger vehicles that are specific to California;

WHEREAS, on December 1, 2011 U.S. EPA and the federal Department of Transportation jointly issued a Notice of Proposed Rulemaking for 2017 through 2025 model year passenger vehicles that proposes a coordinated federal greenhouse gas and fuel economy program for light-duty vehicles, referred to as the "2017 through 2025 MY National Program" (76 Fed. Reg. 74854 (December 1, 2011));

WHEREAS, the 2017 through 2025 MY National Program rule has not been finalized but U.S. EPA has stated that it is expected to be finalized by the end of July 2012;

WHEREAS, as part of the 2017 through 2025 MY National Program, U.S. EPA has committed to a mid-term evaluation of their 2022 through 2025 model year light-greenhouse gas standard;

WHEREAS, it is staff's intent to allow manufacturers to demonstrate compliance with California's greenhouse gas regulations for the 2017 through 2025 model years by demonstrating compliance with the greenhouse gas requirements of the 2017 through 2025 MY National Program, provided that U.S. EPA's Final Rule does not weaken the proposed federal standards and the Program's reduction in greenhouse gas emissions, except that California would maintain its own reporting requirements;

WHEREAS, the California certification fuel used for testing exhaust and evaporative emissions on passenger cars, light-duty trucks, medium-duty vehicles, and heavy-duty gasoline engines and vehicles currently contains the oxygenate methyl tertiary butyl ether (MTBE) in the quantity of 10.8 to 11.2 volume percent (equivalent to 2.0 percent by weight);

WHEREAS, MTBE was banned for use in California gasoline starting December 31, 2003, and resulting in ethanol becoming the prevalent oxygenate used in California gasoline to meet federal requirements;

WHEREAS, although California commercial gasoline currently contains 10 percent by volume ethanol (E10), California certification gasoline specifications continue to require using MTBE;

WHEREAS, currently all new vehicles sold in California must include a California Environmental Performance Label, as set forth in the "California Environmental

Performance Label Specifications for 2009 and Subsequent Model Year Passenger Cars, Light-Duty Trucks, and Medium-Duty Passenger Vehicles," incorporated by reference in title 13, California Code of Regulations, section 1965, which provides consumers with a user-friendly scoring system for comparing the relative smog emissions and global warming emissions from comparable vehicles; and

WHEREAS, the U.S. Environmental Protection Agency and the National Highway Traffic Safety Administration have revised the federal Fuel Economy and Environmental Label, in a manner that allows it to serve as an alternative to the California Environmental Performance Label.

ZERO-EMISSION VEHICLE REGULATIONS BACKGROUND

WHEREAS, the California Zero-Emission Vehicle (ZEV) regulation requires at least 12 percent of the passenger cars and light-duty trucks produced by large or intermediate-volume manufacturers (LMV and IVM) and delivered for sale in California in 2012 to be ZEV credits, meaning credits from battery electric vehicles (BEV) and hydrogen fuel cell vehicles (FCV);

WHEREAS, since its 1990 adoption, the ZEV regulation has been modified six times to better align the regulatory timeline and requirements with the status of ZEV technology and ZEV commercialization feasibility;

WHEREAS, at the March 2008 ZEV hearing, the Board directed staff to review the ZEV, LEV, and greenhouse gas programs from the perspective of being able to reduce smog-forming pollution, to address the problem of the State's contribution to global warming, and to reduce California's dependence on petroleum, and to redesign the 2017 and beyond requirements for the ZEV program by strengthening it focusing it exclusively on the gold requirement (battery, fuel-cell, and plug-in hybrid electric vehicles) to ensure California remains the leading location for moving advanced, low-greenhouse gas technology vehicles to commercialization, which is critical to achieving California's 2050 greenhouse gas emission reduction goals;

WHEREAS, at the March 2008 ZEV hearing, the Board directed staff to develop a program to further the availability of alternative fuels and infrastructure, and to return to the Board with regulations, as appropriate;

WHEREAS, following the Board's direction at the March 2008 ZEV hearing, staff assessed the current state of ZEV technology, an analysis of pathways to meeting California's long term 2050 greenhouse gas reduction goals in the light-duty vehicle subsector, and a review of current and possible future complimentary policies that will be needed to aid in complimentary policies for ZEVs;

WHEREAS, at the December 2009 ZEV hearing, staff presented findings of an assessment of the then current state of ZEV technology, including an analysis of pathways to meeting California's long term 2050 greenhouse gas reduction goals in the

light-duty vehicle subsector, and a review of current and possible future complimentary policies that will be needed to aid in infrastructure and market pull policies for ZEVs;

WHEREAS, staff's assessment found that ZEVs are essential to meeting California's long term greenhouse gas emission reduction goals and ZEVs will need to be 100 percent of new vehicle sales no later than model year 2050, and that any future modifications to the ZEV regulation should help keep the light-duty vehicle subsector on track to reach an 80 percent reduction in greenhouse gas emissions by 2050, and a fueling infrastructure mandate is needed to ensure that publicly available hydrogen fuel exists so that auto manufacturers can sell and lease fuel cell vehicles;

WHEREAS, at the December 2009 ZEV hearing, the Board found the following necessary to better align the ZEV regulation with California's long term climate change and air quality improvement goals:

The focus of the ZEV regulation would shift from only criteria pollutant emission reductions to greenhouse gas emission reductions as well as criteria pollutants;

The ZEV program helps assure that the transformation to very low carbon-emitting vehicles occurs in the timeframe necessary to meet the State's 2050 target of an 80 percent reduction in greenhouse gases compared to 1990 levels;

The ZEV regulation helps assure the successful launch of commercial ZEVs and plug-in hybrid electric vehicles in the next decade, which appears necessary to meet the 2050 greenhouse gas target;

PZEVs, or partial zero emission vehicles, now a part of the ZEV regulation, are commercial and can be removed from the ZEV regulation (effective in 2014). Their emission benefits are appropriately considered in the next revision to the LEV criteria emission standards;

AT PZEVs, or advanced technology partial zero emission vehicles, now a part of the ZEV regulation, are commercial and can be removed from the ZEV regulation (effective in 2017). Their emission benefits are appropriately considered in the next revision to the LEV greenhouse gas emission standards; and

The proposed structure, credit values, and stringency of the revised ZEV program will depend in part on the Board's decision regarding the establishment of more stringent greenhouse gas standards for the overall fleet, and how well that decision places California on the path to meeting an 80-percent reduction in greenhouse gas emissions for the overall fleet, and how well that decision places California on the path to meeting that goal by 2050.

WHEREAS, staff considered the Board's direction as given at the 2009 December ZEV Hearing, as well as input from stakeholders, in developing these proposed amendments to the ZEV regulations and test procedures; and

WHEREAS, at the December 2009 ZEV hearing the Board directed staff to pursue the following three tiered approach to hydrogen infrastructure implementation:

1. Investigate financial incentives to meet current fuel cell vehicle needs;
2. Offer regulatory incentives through existing regulations; and
3. Mandate hydrogen through modifications to existing regulations or through a new regulation.

CLEAN FUELS OUTLET REGULATIONS BACKGROUND

WHEREAS, the Clean Fuels Regulation, adopted in 1990 and amended in 2000, requires certain owner/lessors of retail gasoline stations to equip an appropriate number of their stations with clean alternative fuel once 20,000 or more low emission vehicles, including flexible-fuel and dual-fuel vehicles, certified on a particular clean fuel are projected to be operating in California; the regulation applies to ZEVs (a subset of LEVs) and ZEV fuels, but specifically excludes electricity;

WHEREAS, when the Clean Fuels Regulation was adopted, it was expected that automobile manufacturers would primarily use alternative fuels to meet California's LEV standards; however, auto manufacturers met California's LEV requirements using California reformulated gasoline and, as a result, produced and delivered fewer numbers of alternative fuel LEV vehicles for sale in California than was expected when the regulation was adopted;

WHEREAS, the California Low Carbon Fuel Standard (LCFS) regulation, adopted in 2009 as a performance standard for reducing the carbon intensity of transportation fuels, has resulted in increased amounts of ethanol in conventional gasoline blends, and while ZEV fuels like hydrogen have a significantly lower overall carbon intensity than gasoline and ethanol, the parties regulated under LCFS have thus far chosen to not pursue transportation hydrogen as an LCFS compliance option due to the high cost of installing fueling infrastructure;

WHEREAS, major oil companies have divested most or all of their retail gasoline outlets since the Clean Fuels Regulation was adopted in 1990 and are now considered to be "owner/lessors" of substantially fewer stations, and three major oil companies and three convenience store and supermarket chains now comprise the six largest owner/lessors;

WHEREAS, staff considered expected ZEVs under future greenhouse gas fleet standards for light-duty vehicles, and concluded that the likely level of market penetration would not achieve the cost reductions needed for commercialization in the timeframe needed to meet long term emission reduction goals; and

WHEREAS, staff has proposed amendments to the Clean Fuels Regulation that would align with California's long-term greenhouse gas emission reduction goals by applying only to ZEVs and ZEV fuels with a review for plug-in electric vehicles, shifting the requirements to build outlets to the larger refiner/importers of gasoline, extending the

timeline for both vehicle projections and building outlets, adding a lower regional activation trigger, adding a penalty provision for auto manufacturers and ending the requirement to build outlets sooner.

PROPOSAL FOR ADVANCED CLEAN CARS

WHEREAS, staff developed the Advanced Clean Cars program, 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), ZEV regulations, and Clean Fuels Outlet regulation;

WHEREAS, developing the proposed amendments to the LEV III and ZEV elements of the Advanced Clean Cars rulemaking staff conducted five 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, the first workshop, on March 2, 2010, focused on preliminary elements of the proposed LEV III criteria pollutant emission standards and involved a presentation of technical information from several studies that were under evaluation for potential greenhouse gas emission reduction; the second workshop, on May 3, 2010, focused on staff's initial proposal for modifications to the ZEV regulation; the third workshop, on May 18, 2010, went into more detail in several areas related to LEV III criteria pollutant emissions and greenhouse gas emissions; the fourth workshop, on November 16, 2010, provided an update on proposed requirements for LEV III criteria emissions, a review of technologies to reduce vehicle greenhouse emissions in the 2017-2025 timeframe, a discussion on California's Environmental Performance label requirements, and proposed modifications to the ZEV program; and the fifth workshop, on July 19, 2011, solicited input on items relating to the Advanced Clean Cars rulemaking;

WHEREAS, in developing the proposed amendments to the CFO Regulation, the staff conducted three public workshops on April 1, 2010, May 26, 2010, and July 13, 2011, and conducted meetings and conference calls with energy companies, fuel providers, station developers, auto manufacturers and other interested parties;

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, 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, in conjunction with a public hearing notice dated December 7, 2011, the staff has proposed a set of amendments to the low-emission vehicle regulations and incorporated documents, as set forth in Attachment A hereto; these amendments 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 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 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, manufacturers have a wide range of technology options available to achieve the proposed criteria pollutant standards, many of which are already being used in today's vehicles;

WHEREAS, criteria pollutant emission control technologies that include more precise fuel delivery systems, improved combustion chamber and manifold design, optimized close-coupled catalyst design, increased catalyst loading and volume, secondary air injection, hydrocarbon adsorbers, and improved evaporative fuel control systems can cost-effectively achieve reductions in oxides of nitrogen, hydrocarbon, and particulate emissions to meet standards that are at least seventy percent lower than those in year 2012;

WHEREAS, in the interest of the Board's goal of reaching the proposed 1 mg/mi PM standard before the 2018 timeframe, it is staff's intent to conduct a review of the 2.5 mg/mi PM standard in the 2015 timeframe and report back to the Board on the results;

WHEREAS, the technical contracting companies Ricardo Incorporated and FEV Incorporated analyzed the technical feasibility and cost effectiveness of the technologies listed above in the following studies: "Computer Simulation of Light-Duty Vehicle Technologies for Greenhouse Gas Emission Reduction in the 2020-2025 Timeframe" (Ricardo Incorporated, 2011); "Light-Duty Technology Cost Analysis Power-split and P2 HEV Case Studies" (FEV Incorporated, 2011); "Light-Duty Technology Cost Analysis: Report on Additional Case Studies" (FEV Incorporated, 2009); "Light-Duty Technology Cost Analysis Pilot Study" (FEV Incorporated, 2009);

WHEREAS, the studies listed above included state-of-the-art vehicle simulation modeling performed on scores of advanced technology combinations that demonstrate an array of cost-effective solutions can be assembled to meet the proposed criteria and greenhouse gas emission standards while delivering the vehicle performance, utility and comfort consumers expect;

WHEREAS, expert engineering and cost consultants engaged by the automobile industry were utilized to dissect multiple advanced technologies under consideration in a part by part detailed cost evaluation to arrive at their actual production cost;

WHEREAS, these same consultants were utilized to further project for many key advanced technologies how cost could be reduced and improvements in performance could be achieved in the future through design, materials or manufacturing changes by further analyzing every one of the many parts that comprise each technologies' assembly;

WHEREAS, the abovementioned criteria pollutant emission reduction technologies are being actively implemented in 2012, or within near-future product plans, by nearly every major automobile manufacturer that sells vehicles in California;

WHEREAS, the proposed greenhouse gas standards are also predicated on many existing and emerging technologies that increase engine and transmission efficiency, reduce vehicle energy loads, improve auxiliary and accessory efficiency, and that recognize increasingly electrified vehicle subsystems with hybrid and electric drivetrains;

WHEREAS, available automobile technologies including improved aerodynamics, lower rolling resistance tires, variable valve train control systems, turbocharged direct injection engines, optimized transmission controls, dual clutch transmissions with increased gear-ratios, integrated starter-generators, increased-efficiency accessories, air conditioning refrigerant systems with lower global warming potential effects, hybrid systems with combined use of combustion engines and electric motors, are technically feasible and can offer at least the same consumer utility, performance, size, and safety of existing vehicles while achieving at least thirty-four percent lower greenhouse gas emission levels for new vehicles from model year 2016 to 2025;

WHEREAS, the abovementioned studies determined that the greenhouse gas emission reduction technologies offer consumer benefits that greatly exceed the technology costs associated with their development and manufacture, and can deliver a payback to the vehicle consumers within three years based on the estimated average incremental price increase in 2025, the average annual California new vehicle use, and the average future fuel prices;

WHEREAS, the abovementioned greenhouse gas emission reduction technologies are being actively implemented in 2012, or within near-future product plans, by nearly every major automobile manufacturer that sells vehicles in California;

WHEREAS, in conjunction with a public hearing notice published December 7, 2011, staff proposed substantial amendments to the ZEV regulation and to the ZEV Standards and Test Procedures, as set forth in Attachment B hereto; these amendments 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 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 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 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, in conjunction with a public hearing notice published December 7, 2011, staff proposed substantial amendments to the ZEV regulation and to the ZEV Standards and Test Procedures, as set forth in Attachment B hereto; these amendments 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 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 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 staff proposes additional amendments that will be released for a 15-day comment period for an optional Section 177 State compliance path for manufacturers to provide pre-2018 ZEVs in those states for a reduction in their 2015 through 2018 model year TZEV requirements and 2018 through 2020 model year ZEV requirements in the Section 177 states, as well as the ability to pool those vehicles within an East and West region pool;

WHEREAS, following consideration of public testimony at the Board hearing held over January 26-27, 2012, the Board directed the Executive Officer to:

1. Make such changes to the regulatory language as necessary to ensure that ZEV over-compliance is calculated in a manner that fully accounts for upstream GHG emissions;
2. Make such changes to the regulatory language as necessary to end the ZEV GHG over-compliance provision in 2021;
3. Make such change to the regulatory language as necessary to require automobile manufacturers to apply for participation in the ZEV over-compliance program no later than December 31st, 2016; and
4. Monitor the usage of the ZEV over-compliance provision during the 2014 to 2025 timeframe and during that timeframe report back to the Board every two years with: the number of automobile manufacturers intending to participate in the program, those manufactures' respective market shares, and the number of ZEV and TZEV vehicles that would not be delivered to California and Section 177 states due to the ZEV over-compliance program.

WHEREAS plug-in electric and hydrogen fuel cell vehicle technologies are capable of zero at-vehicle exhaust emissions, can deliver greater than an eighty percent reduction

in lifecycle pollutant emissions when considering energy production processes to deliver the electricity and hydrogen to the vehicles, and offer the greatest potential to help achieve climate stabilization goals and local ambient air quality standards in California;

WHEREAS plug-in electric and hydrogen fuel cell vehicle technologies are being deployed in 2012 in greater numbers and by more manufacturers than in any previous year;

WHEREAS, in conjunction with a public hearing notice dated December 7, 2011, the staff has proposed a set of 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, staff proposes additional modifications that will be released for a 15-day comment period to the proposed amendments that would hibernate the CFO requirements if the MOA is signed and the terms of the MOA are met per a specified timeline with measurable milestones to assess progress;

WHEREAS, staff proposes additional amendments that will be released for a 15-day comment period to sunset the requirements for providing hydrogen stations if, as a result of the MOA, 100 stations are established;

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

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 a joint environmental analysis (EA) for the proposed amendments to the LEV, ZEV, and Clean Fuels Outlet regulations; the EA presents a programmatic evaluation of a full range of environmental impact topics related to implementation of the proposed program, including potential alternatives;

WHEREAS The EA determined that the likely compliance responses to the amendments are expected to result in: a substantial, beneficial impact to criteria air pollutant and greenhouse gas emissions; less-than-significant impacts agriculture and forest resources, land use and planning, mineral resources, population and housing, and recreation; and potentially significant environmental effects to aesthetics, biology, cultural resources, geology and soils, hazards (accidental releases), hydrology and water quality, noise, traffic (construction), and utilities; and the adverse effects result primarily from landscape disturbance occurring from constructing and operating fueling facilities required for compliance with the proposed CFO regulation amendments or battery manufacturing facilities expected to be needed to achieve compliance with the proposed ZEV regulation amendments;

WHEREAS, ARB does not have the authority to impose mitigation measures for these identified project-specific impacts for future projects outside ARB's regulatory purview

and must rely on the agencies that will ultimately conduct project-level review and approve those projects to impose required mitigation;

WHEREAS, the EA was released as Appendix B to each Staff Report: Initial Statement of Reasons on December 7, 2011, and a 45-day written public comment period began on December 12, 2011;

WHEREAS, ARB's certified regulatory program provides that prior to taking final action on any proposal for which significant environmental issues have been raised, the decision maker shall approve a written response to each such issue; no final decision will be made until comments on the EA are fully considered and a written response approved by the decision maker;

WHEREAS, the Executive Officer is the decision maker for the purposes of title 17, California Code of Regulations, section 60007; no final decision will be made until comments on the environmental analysis are fully considered and the written responses approved by the decision maker;

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; and

WHEREAS, the Board, having considered all information presented in the public hearing and administrative proceedings 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 MY National Program as compliance with California's greenhouse gas emission standards in the 2017 through 2025 model years, once 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 forgoing 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 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.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby approves for adoption the proposed 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 approve for repeal sections 2306, 2310, 2316, and

2317, Title 13, California Code of Regulations, and the proposed amendments to (and adoption of) the documents incorporated by those regulations, as set forth in Attachments A, B, and C hereto, with the modifications set forth in Attachments D through F hereto;

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to continue collaborating with EPA and NHTSA as their standards are finalized and in the mid-term review to minimize potential lost benefits from federal treatment of upstream emissions of electricity and hydrogen fueled vehicles;

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to monitor consumer purchasing trends and California's fleet mix to evaluate any effect of a potential shift in vehicle footprint size to higher polluting vehicles and the reclassification of cars as trucks that deviates from the fleet size and category mix projected in the approved amendments, to make the information obtained publically available as it is acquired, and to report back to the Board no later than the end of 2016 regarding any such effects and to address any such effects in the mid-term review;

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to monitor consumer acceptance of TZEVs and report back to the Board no later than the end of 2016 on the TZEV volumes expected in the ZEV program in model years 2018 through 2021;

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to return to the Board with in-use data for range extended battery electric vehicles and plug-in hybrid electric vehicles, and, if warranted, propose appropriate modifications to treatment and credits for these vehicle types in 2016;

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to either propose modifications to the approved regulatory amendments, or to return to the Board with a new regulatory proposal, to accept compliance with the 2017 through 2025 MY National Program as compliance with California's greenhouse gas emission standards in the 2017 through 2025 model years, if the Executive Officer determines that U.S. EPA has adopted a final rule that at a minimum preserves the greenhouse reduction benefits set forth in U.S. EPA's December 1, 2011 Notice of Proposed Rulemaking for 2017 through 2025 model year passenger vehicles;

BE IT FURTHER RESOLVED that if the Board does not accept compliance with the 2017 through 2025 MY National Program as compliance with California's greenhouse gas emission standards in the 2017 through 2025 model years, that the greenhouse gas-ZEV over compliance provision will not be available for use in the ZEV regulation;

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to participate in U.S. EPA's mid-term review of the 2022 through 2025 model year passenger vehicle greenhouse gas standards being proposed under the 2017 through 2025 MY National Program;

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to re-examine the stringency and timing of the proposed 1 mg/mi PM standard in the 2018 timeframe;

BE IT FURTHER RESOLVED that in the interest of the Board's goal of reaching the proposed 1 mg/mi PM standard before the 2018 timeframe, the Board directs the Executive Officer to conduct a review of the 2.5 mg/mi PM standard in the 2015 timeframe and report back to the Board on the results;

BE IT FURTHER RESOLVED that the Board re-affirms that the ZEV program is necessary for California's NAAQS attainment and that the obligations of the ZEV program upon regulated parties are separate from those of LEV III GHG or a national program;

BE IT FURTHER RESOLVED that, prior to taking final action on these amendments, the Board Directs the Executive Officer to;

1. Make such changes to the regulatory language as necessary to ensure that ZEV over-compliance is calculated in a manner that fully accounts for upstream GHG emissions;
2. Make such changes to the regulatory language as necessary to end the ZEV GHG over-compliance provision in 2021;
3. Make such change to the regulatory language as necessary to require automobile manufacturers to apply for participation in the ZEV over-compliance program no later than December 31st, 2016; and
4. Monitor the usage of the ZEV over-compliance provision during the 2014 to 2025 timeframe and during that timeframe report back to the Board every two years with: the number of automobile manufacturers intending to participate in the program, those manufactures' respective market shares, and the number of ZEV and TZEV vehicles that would not be delivered to California and Section 177 states due to the ZEV over-compliance program.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to conduct a study of the potential effects of:

1. Adding an additional category of vehicles to the ZEV regulation for "BEV XX" vehicles that would be allowed greater use of an internal combustion engine than allowed for vehicles approved as "BEV X" vehicles in this action, where such BEX XX vehicles would only be applied to 25 percent of a manufacturer's pure ZEV requirement; and
2. Changing the current requirement of a pure 10 mile range threshold for the BEV category to a 10 mile range equivalency concept.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to investigate the feasibility and potential means of conducting a study of consumers' actual usage of

the electric and internal combustion power sources of BEV X and similar vehicles and report back to the Board.

BE IT FURTHER RESOLVED that the Board Directs the Executive Officer to:

1. Prior to taking final action on these amendments conduct such further environmental analysis as deemed necessary for a regulatory program certified under Public Resource Code section 21080.5, including evaluation of all comments received during the public comment periods, including comments raising significant environmental issues, and prepare and approve written responses as required by Public Resource Code section 21080.5(d)(2)(D), and title 17, CCR section 60007;

2. Determine whether there are additional feasible alternatives or mitigation measures that could be implemented to reduce or eliminate any potential adverse environmental impacts;

3. Make findings as required by Public Resources Code § 21081 if the proposed amendments would result in one or more significant adverse environmental effects; and

4. Take final action on the proposed amendments as directed below, as well as any additional modifications that are necessary to ensure that all feasible mitigation measures or feasible alternatives that would substantially reduce any significant adverse environmental impacts have been incorporated into the final action, or return the proposed amendments and findings to the Board for further consideration before taking final action, if he determines that this is warranted.

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to take final action to adopt the proposed amendments and new documents set forth in Attachments A through C, including incorporated documents, with the modifications set forth in Attachments D through F and as further resolved and directed above, after making the modified regulatory language, with such other conforming modifications as may be appropriate, and additional supporting documents and information, available for public comment for a period of 15 days, provided that the Executive Officer shall consider such written comments regarding the modifications and additional supporting documents and information as may be submitted during this period, shall make modifications as may be appropriate in light of the comments received, and shall present the regulations to the Board for further consideration if he determines that this is warranted; the Executive Officer has the discretion to return the amendments to the Board for final action;

BE IT FURTHER RESOLVED that the Board hereby determines that the proposed regulations approved for adoption herein will not cause California motor vehicle emission standards, in the aggregate, to be less protective of public health and welfare than applicable federal standards;

BE IT FURTHER RESOLVED that the Board hereby finds that separate California emission standards and test procedures are necessary to meet compelling and extraordinary conditions;

BE IT FURTHER RESOLVED that the Board finds that the California emission standards and test procedures approved for adoption herein will not cause the California requirements to be inconsistent with section 202(a) of the Clean Air Act and raise no new issues affecting previous waiver determinations of the Administrator of the Environmental Protection Agency pursuant to section 209(b) of the Clean Air Act; and

BE IT FURTHER RESOLVED that the Executive Officer shall, upon final adoption, forward the regulations to the Environmental Protection Agency with a request for a waiver or confirmation that the regulations are within the scope of an existing waiver of federal preemption pursuant to section 209(b) of the Clean Air Act, as appropriate.

I hereby certify that the above is a true and correct copy of Resolution 12-11, as adopted by the Air Resources Board.

Mary Alice Morency, Clerk of the Board

Resolution 12-11

January 26, 2012

Identification of Attachments to the Board Resolution

Attachment A: Proposed amendments to the LEV III Regulation, as set forth in Appendix A and the Proposed Amendments to Test Procedures, as set forth in Appendices C, E, F, G, H, J, K, L, M and proposed new test Procedures, as set forth in Appendices D, I, and N to the Initial Statement of Reasons, released December 7, 2011.

Attachment B: Proposed amendments to the ZEV Regulation, as set forth in Appendices A-1, A-3, A-5 and proposed amendments to the California Exhaust Emission Standards and Test Procedures, as set forth in Appendix A-2 and adoption of new Appendix A-4 to the ZEV Initial Statement of Reasons, released December 7, 2011.

Attachment C: Proposed amendments to the CFO Regulations, as set for the in Appendix A to the CFO Initial Statement of Reasons, released December 7, 2011.

Attachment D: Staff's Suggested Modifications to the Original LEV III Proposal (Distributed at the January 26, 2012 Board hearing)

Attachment E: Staff's Suggested Modifications to the Original ZEV Proposal (Distributed at the January 26, 2012 Board hearing)

Attachment F: Staff's Suggested Modifications to the Original Clean Fuels Outlet Proposal (Distributed at the January 26, 2012 Board hearing)