

APPENDIX C

Master Memorandum of Agreement

MASTER MEMORANDUM OF AGREEMENT

The California Air Resources Board (“ARB”) and [manufacturer] (“Manufacturer”) hereinafter collectively referred to as the “Parties,” enter into this Memorandum of Agreement (“MOA”) to help ensure continued progress toward a successful launch of a sustainable market for zero-emission vehicles in California by using market-based strategies for introduction of zero-emission vehicles.

Whereas, many areas of California exceed the national ambient air quality standard for ozone and virtually all areas of the state exceed the state ozone standard; and

Whereas, ARB has adopted a state implementation plan (SIP) to provide for attainment of the national standards in all areas of the state by the deadlines specified in federal law; and

Whereas, ARB has determined that motor vehicles are the source of significant ozone precursor emissions in California and that light-duty vehicles are major contributors to mobile source emissions; and

Whereas, ARB has adopted a regulation creating the Low Emission Vehicle (LEV) program, which established increasingly more stringent emissions standards for four types of lower emitting passenger cars and light duty trucks 0-3750 lbs. loaded vehicle weight (LVW) (hereinafter “light duty vehicles”) and requires manufacturers to meet a production weighted fleet average for non-methane organic gas (NMOG) exhaust emission requirement; and

Whereas, the LEV program adopted by ARB requires certain manufacturers, beginning with the 1998 model year, to produce and deliver for sale in California zero emission vehicles (ZEV) in volumes equal to specific percentages of the total of vehicles produced and delivered for sale in California by that manufacturer (“percentage ZEV requirements”); and

Whereas, the only currently available technology to meet the percentage ZEV requirements in the 1998 through early 2000s time frame is electric vehicles powered by electrochemical batteries; and

Whereas, the current SIP as adopted by ARB includes emission reductions attributable to the LEV program including the percentage ZEV requirements; and

Whereas, the Battery Technology Advisory Panel (“Battery Panel”) established by ARB found that improved lead acid batteries will be available for ZEVs in 1998 but that major automakers believed they would be purchased in quantities less than those required to meet the percentage ZEV requirements; and

Whereas, the Battery Panel concluded that given a complete success scenario electric vehicles with commercial-production advanced technology batteries could become available in the 2000-

2001 time frame; however, as the Battery Panel further reported, “estimated dates for availability of advanced batteries from commercial-scale production have significant uncertainties;” and

Whereas, ARB and Manufacturer desire to see a smooth and orderly introduction of ZEVs into the market and to foster market acceptance of ZEVs with products that meet customer needs; and

Whereas, ARB and Manufacturer agree that good faith marketing of ZEVs is critical to their initial introduction and long term success and the Parties intend to work together to increase customer awareness to facilitate ZEV introduction, and Manufacturer will make good faith efforts as appropriate to market and promote its ZEV products and ARB will pursue funding for co-sponsored programs; and

Whereas, ARB believes that, if an emissions control program is modified in any way that would reduce the emissions reductions assumed in the SIP, equivalent emission reductions must be obtained to ensure the approvability of California’s SIP; and

Whereas, ARB believes that marketability of ZEVs and advanced technology batteries will be promoted by deployment of ZEVs in demonstration fleets and that rapid development of technologies will best be assured if manufacturers continue research and development while investment is being made in ZEV infrastructure planning and development; and

Whereas, the Parties agree that a market-based approach to the introduction of ZEVs in California will provide flexibility and help ensure the best possible product at the least cost; and

Whereas, the Parties intend to enter into this MOA to provide a mechanism to ensure the implementation of demonstration projects necessary to permit the evaluation of the performance, reliability, safety, and life of advanced technology batteries in ZEVs and to support pilot scale production of advanced technology batteries to validate production processes in terms of product quality and process economics, and to permit evaluation of other factors including infrastructure, market incentives and market acceptance;

Now, Therefore the Parties agree to the following:

I. Manufacturer’s Obligations.

A. Cleaner Cars Nationwide Manufacturer commits to participate in a 49 state program. For purposes of this MOA, “49 state program” means a voluntary program, beginning not later than the 2001 model year, entered into by Manufacturer to produce and deliver for sale cleaner light duty vehicles (up to 6000 lbs. GVW), i.e. vehicles certified to standards equivalent to California standards, in the 49 states, excluding states which have adopted the California program through section 177 of the Clean Air Act. Under such a program the fleet average NMOGs, for the 2001 model year and beyond, for passenger cars and light duty trucks up to 3750 lbs. LVW will be 0.075 gpm and for light duty trucks up to 6000 lbs. GVW the fleet NMOG average shall be 0.10

gpm. If a 49 state program as described above is not implemented, then “49 state program” shall also mean other program(s) of choice undertaken by Manufacturer which offer emissions reduction benefits for the State of California equivalent, as determined by the Executive Officer, to those that would have been realized by the State of California under the above described 49 state program as calculated in Exhibit B.

B. Market Based ZEV Launch. In addition to any vehicles produced and placed in a demonstration project under I.D.2 below, Manufacturer commits that it will have the capacity to produce specified numbers of ZEVs that could be sold in California if warranted by customer demand. Capacity numbers for model years 1996 and beyond were previously submitted to ARB on or about November 13, 1995. This submission is attached as Exhibit A and shall continue to be treated as confidential and proprietary business information, and is intended to provide accurate information for business and regulatory planning purposes for infrastructure development and funding.

C. ZEV Product Plans (Ramp-Up/Transition Plans). Prior to November 1 of the year preceding each of the scheduled reviews pursuant to section IV of this MOA, Manufacturer shall submit to ARB confidentially its ZEV product plans for model years through the 2003 model year. ZEV product plans shall include to the extent available projections for model-type(s), vehicle features and specifications, production capacity, prospective battery suppliers, capital allocation, and identification of products that will meet the ZEV regulatory requirement in 2003. Such product plans shall be consistent with approved product plans used by manufacturer for internal funding purposes.

D. Technology Development Partnership. Both ARB and Manufacturer agree to make good faith efforts to promote and develop a market for ZEVs, and to ensure ongoing ZEV-related research and development. Further ARB and Manufacturer agree to discuss and identify barriers to successful launch of a sustainable market for ZEVs in California and to identify ways to overcome these barriers.

1. Research and Development: Manufacturer commits to continuing ZEV and battery research and development throughout the term of this MOA to facilitate the earliest possible commercial introduction of, and a sustainable market for, ZEVs. These research and development activities will include the acquisition and evaluation of advanced technology battery prototypes prior to 1998. [For AAMA members: Specifically Manufacturer commits to contributing funding in the amount of at least \$____¹ million during Phase II of the US Advanced Battery Consortium (USABC) currently scheduled to be completed by 1999, and in any case Manufacturer shall contribute said amount by 2002.

¹ MOA's for individual manufacturers will reflect the following amounts: Chrysler, \$3.34 million; Ford, \$6.67 million; and GM, \$8.90 million.

2. Advanced Technology Battery Demonstration Project: (a) Manufacturer commits to placing ZEVs in one or more demonstration projects intended to determine the capabilities and marketability of one or more advanced technology batteries. This commitment shall include some placements to provide sufficient feedback to the Manufacturer as necessary to meet data and information needs regarding consumer use and acceptance, vehicle and battery performance, and market development. The Parties intend that the placed vehicles will remain in use in California for 3 years or more. In any event, Manufacturer shall retain maximum flexibility to move or relocate these vehicles within California or to suspend a project for good cause. If a demonstration project is suspended for good cause, Manufacturer shall submit a report to the Executive Officer indicating the number of vehicles involved and describing the cause of the suspension and whether Manufacturer plans to resume the project.

(i) Manufacturer will place a specified number of new ZEVs with advanced technology batteries into service in California urban areas in accordance with the following table:

Calendar Year	Specified Number of Vehicles
through 1998	
1999	
2000	

The numbers in this table reflect Manufacturer's pro rata share of 750 vehicles through 1998 and Manufacturer's pro rata share of 1500 vehicles annually for 1999 and 2000.²

The Executive Officer will adjust these requirements for a calendar year, including extending the program up to one year, if Manufacturer demonstrates that the adjustments being sought would better serve the purposes and policies of the demonstration project than the specified requirements. Unless an extension is granted by the Executive Officer, all cumulative demonstration requirements must be met by the end of the 2000 calendar year.

(ii) Manufacturer may reduce the total number of ZEVs required to be placed in demonstration projects if the batteries in the vehicles have a specific energy of 50 w-hr/kg or more. Vehicles will receive placement credit by linear interpolation between the values shown in the following schedule:

² MOA's for individual manufacturers will reflect that manufacturer's allocation of the 3750 vehicles based on the manufacturer's pro rata share of the market as set out in the definition section of the agreement (§X.E).

Vehicles powered by a battery with a specific energy of :	Shall be credited As:
50 w-hr/kg*	One ZEV
60 w-hr/kg	Two ZEVs
90 w-hr/kg	Three ZEVs

* Through 1998 calendar year, 40 through 50 w-hr/kg shall receive one ZEV credit with no interpolation between 40 and 50 w-hr/kg.

(iii) For purposes of determining compliance with the volumes specified in (i) above Manufacturer may include advanced technology battery vehicles placed other than through the demonstration projects. Manufacturer may also comply with the volumes specified in (i) by utilizing credits generated by Manufacturer or obtained from other manufacturers pursuant to (d) below.

(b) Vehicles placed through a demonstration project under I.D.2 will be placed in commerce in accordance with regulations issued by the National Highway Traffic Safety Administration.

(c) Manufacturer will provide service and support for ZEVs placed under I.D.2. Such service and support will be available for the term of the demonstration program up to a maximum of three years after a vehicle is placed, unless the program is suspended in accordance with I.D.2(a), or the vehicle is no longer in operation in California.

(d) Manufacturer will not be allowed to earn credits under 13 CCR section 1960.1(g) (2), note (9) for any ZEV produced and delivered as a part of any demonstration project under this paragraph, except to the extent the number of ZEVs placed exceeds the number required to be placed under I.D.2(a) above. Credits earned for vehicles placed in excess of the number required shall be fully transferable among manufacturers and may be used to satisfy any obligation under I.D.2(a) or under the LEV program.

E. Annual Report. Manufacturer shall file a report with the Executive Officer within 90 days after the close of each calendar year providing the following:

1. Information regarding ZEVs placed in California and the United States in the most recently ended calendar year, including the number and type of vehicles, the MSRP if any, and the type of battery, including major battery specifications, incorporated in the vehicles; and

2. Information regarding the purchase of advanced technology battery prototypes prior to 1998 [For AAMA members: and, for the reports covering 1996-1999, Manufacturer must identify its contribution during the year to Phase II of the USABC program]; and

3. Information concerning the placement of ZEVs under I.D.2 and related feedback.

F. Manufacturer will continue to collaborate with ARB and the State Fire Marshal to develop the curriculum and materials necessary for the comprehensive ZEV safety training program currently under development by the agencies.

G. Not later than three months prior to the biennial review under IV below, the Manufacturer, at ARB's request, shall provide the duly authorized representatives of ARB's Executive Officer on-site review of activities and hardware related to Manufacturer's ZEV program. Such on-site review shall be at a mutually agreeable time.

II. ARB's Obligations. ARB shall work with state and local authorities and others to ensure the development of ZEV infrastructure and the removal of barriers to the introduction of ZEVs. Specifically ARB shall:

A. Facilitate the purchase of ZEVs for appropriate applications in state fleets by working with the California Department of General Services (DGS) and the California Energy Conservation and Development Commission to establish vehicle specifications for the State Bid List and by working with the DGS Office of Fleet Administration to ensure the sale or lease of ZEVs to selected state agencies;

B. Work with the California Department of Insurance to establish reasonable rates for insuring new ZEVs, to promote insurance industry awareness of ZEVs, and to resolve other issues related to insuring ZEVs;

C. Work with the California Department of State Banking to develop risk assessment data to assist in securing financing for the purchase or lease of ZEVs;

D. Work with the Department of Toxic Substance Control, the Integrated Waste Management Board, and the Office of Environmental Health Hazard Assessment to ensure the availability of sufficient battery recycling capacity;

E. Work with local governments to provide assistance in planning and permitting quick charge and public charging stations;

F. Work with utilities and trade groups representing electrical contractors to provide training for installation and maintenance of electric vehicle charging systems;

G. Continue to support the efforts of the Infrastructure Working Council on standardization of power supply, emergency disconnect, standard conductive and inductive charging systems;

H. Continue to work with the State Fire Marshal and other state and local emergency response officials (fire, ambulance, law enforcement) and towing companies to create a comprehensive ZEV training program to ensure preparedness for incidents involving ZEVs;

I. Maintain its commitment to observe the activities of the USABC regarding the development of advanced technology batteries; and

J. Support the development and implementation of reasonable incentive programs that enhance the near-term marketability of ZEVs.

III. SIP Credits. Based on ARB's analysis, which is attached as Exhibit B, ARB finds that if, for the duration of this MOA, Manufacturer meets the current NMOG curve and implements a 49 state program, the emissions reduction benefits are at least equivalent to the benefits attributable to the 1998 through 2002 percentage ZEV requirements in the current SIP.

IV. Review. ARB will hold biennial public hearings, commencing in 1998, to conduct comprehensive reviews of the ZEV program, including the status of battery technology.

V. Enforcement. A. Breach of Manufacturer's obligations for which liquidated damages are prescribed under B below, shall be determined by the Executive Officer, in accordance with the provisions of 1 below, with de novo review by the Board. After Board review, Manufacturer has the right to a de novo review in the Superior Court of California for Sacramento County.

1. If the Executive Officer makes a preliminary determination that a Manufacturer has failed to comply with any requirement of this MOA for which liquidated damages have been prescribed under B below, he or she will notify Manufacturer in writing of the reasons supporting the preliminary determination and provide Manufacturer all information from any source upon which the preliminary determination was based. Within 15 business days of receipt of such a notice, Manufacturer must notify the Executive Officer of the following:

- (a) The grounds (if any) on which Manufacturer contends it has fully complied with the requirement identified by the Executive Officer;
- (b) The good faith steps (if any) Manufacturer took before the deadline for compliance; and
- (c) The subsequent steps (if any) Manufacturer has taken or proposes to take to come into compliance with the requirement.

2. Manufacturer will be in breach of this MOA only if the Executive Officer determines, in good faith, based on the information submitted by Manufacturer and on other relevant information made available to Manufacturer, that Manufacturer has not fully complied

with the requirements for which liquidated damages have been prescribed under B below, and that either (a) Manufacturer failed to take good faith steps before the deadline for compliance to verify with ARB the conditions necessary for compliance or (b) Manufacturer is not taking good faith steps that will bring it into compliance with the requirement as quickly as possible and consistent with the principles of this MOA. Where a breach has been found, Manufacturer's obligations, including liquidated damages prescribed under B below, may be waived or lessened as appropriate by the Executive Officer or by the Board. The Executive Officer must give Manufacturer prompt written notice of the determination of breach. Within 30 business days of receipt of notice of the determination, Manufacturer may appeal the determination to the Board.

3. In making the determination regarding Manufacturer's obligations, consideration shall be given to whether the failure to fulfill Manufacturer's obligations was caused by events or circumstances outside Manufacturer's reasonable control not caused by the fault or negligence of the Manufacturer, which causes the Manufacturer to be unable to perform its obligations under this MOA, including but not limited to flood, earthquake, storm, fire and other natural catastrophes, epidemic, war, riot, civic disturbance or disobedience, strikes, labor dispute, sabotage of facilities, any order or injunction made by a court or public agency, or the failure of battery manufacturers to develop, produce and make available viable advanced technology batteries at a reasonable pilot-level price. If it is found that such condition(s) occurred, then it shall be found that the failure to fulfill the obligations does not constitute a breach of this MOA. In the event such condition(s) occurs, manufacturer must promptly notify ARB and must use its best efforts to resume performance as quickly as possible, and may suspend performance only for such period of time as is necessary as a result of such condition.

B. At the time Parties enter into this MOA they recognize that any harm that results from the Manufacturer's failure to comply with the provisions of the MOA is unknown and extremely difficult to quantify. Therefore, upon advice of legal counsel, Manufacturer agrees to pay liquidated and agreed damages for the Manufacturer's noncompliance, as determined in accordance with A above, in an amount specified in the following table:

1. Failure to implement a 49 state program under I.A either (a), (b) or (c) as appropriate

(a) for complete failure to implement	pro rata share of \$100,000,000
(b) if Manufacturer implements later than required and does not offset the emissions reduction benefit of a 49 state program	\$100,000 plus \$22,000 per ton of non-offset emissions
(c) if Manufacturer implements later	\$100,000

than required and offsets the emissions reduction benefit of a 49 state program

2. Failure to submit ZEV product plans as required in I.C \$5,000 *

[For AAMA members:

3. Failure to contribute to research and development as required by I.D.1 \$ equal to unpaid portion of funding commitment]

4. Failure to place advanced technology battery ZEVs in California as required by I.D.2(a) \$25,000 per vehicle shortfall

5. Failure to file annual report as provided in I.E \$5,000 *

* per occurrence per day to a maximum of 30 days, unless a notice by ARB of non-compliance has been received by Manufacturer

C. The liquidated damages will be payable by Manufacturer into an account opened by Manufacturer with a third-party escrow holder acceptable to the ARB's Executive Officer. The escrowed funds will be used for projects that are mutually agreeable to the Parties and that will develop a sustainable market for ZEVs. Any unexpended funds shall revert to the Air Pollution Control Fund.

D. If Manufacturer is in breach of this MOA, the ARB may pursue both liquidated damages under this section V and appropriate regulatory action including reinstating the percentage ZEV requirements as to Manufacturer.

VI. Term of the Agreement. Except as provided in V.D above, this MOA shall terminate at the end of the 2002 model year; or, at Manufacturer's option if at any time after 180 days after execution of this MOA, ARB has in effect, with respect to any period of time prior to the 2003 model year, any ZEV related production or sale requirement(s) or other emissions related requirement(s) that Manufacturer can demonstrate would cause or require the production or sale of ZEVs.

VII. Confidentiality. Any information submitted as part of, or in accordance with, this MOA and designated as confidential by the submitter shall be handled in accordance with the confidentiality provisions of the California Public Records Act (Government Code section 6250 *et seq.*) and ARB's implementing regulations (17 CCR section 91000 *et seq.*). Manufacturer's failure to comply with any requirement of this MOA may not be claimed to be confidential.

VIII. No alteration or variation of the terms of this MOA may be made, unless the modification is in writing and signed by the Parties. Any changes to similar agreements entered into with other manufacturers will, at Manufacturer's option, be made to this MOA. ARB commits to advising Manufacturer of changes and alterations made to similar agreements with other manufacturers.

IX. Each Party and each signatory to this MOA warrants that it, he or she has the requisite authority to execute, deliver and consummate the actions contemplated by this MOA.

X. Definitions. For purposes of this MOA the following definitions shall apply:

A. "Place", "placement", or "placing" (or any derivative of these terms) means to sell, lease or otherwise transfer a vehicle to a person or entity in California that is expected to use the vehicle on a frequent, regular basis.

B. "Advanced technology battery" means a battery that has a specific energy of at least 40 watt-hours per kilogram (w-hr/kg) for 1998, and of at least 50 w-hr/kg for 1999 and beyond.

C. "Specific energy" of batteries will be the specific energy as determined in accordance with the USABC's January 1996 Electric Vehicle Battery Procedure Manual, Procedure No. 2, "Constant Current Discharge Test Series," using the C/3 rate. The weight calculation must reflect a completely functional battery system as defined in Appendix F of the Manual, including pack(s), required support ancillaries (e.g. thermal management), and electronic controller. [For AAMA members: ARB, with the concurrence of the Technical Advisory Committee of the USABC, will determine the specific battery system elements to be included in the burden calculation in order to achieve uniform specific energy rating methodology for all battery systems. For other Manufacturers: ARB will determine the specific battery system elements to be included in the burden calculation in order to achieve uniform specific energy rating methodology for all battery systems.]

D. "Capacity to produce" means that the manufacturer has available adequate vehicle production facilities either in-house or contractually with others, including the in-house ability or outside contracts sufficient to supply major vehicle parts and components needs. "Capacity to produce" does not obligate the Manufacturer to produce, deliver or sell a specified number of ZEVs.

E. "Pro rata share" means historical share attributable to a manufacturer, based on its share of the California market for passenger cars and light duty trucks up to 3750 lbs. LVW; and for purposes of this MOA shall be as follows: Chrysler-- 6.86%, Ford -- 24.19%, GM -- 24.33%, Honda -- 13.49%, Toyota -- 18.06%, Mazda -- 3.68%, and Nissan -- 9.39%.

XI. Notices. All notices, demands, requests, consents, approvals, or other communications (Collectively, "Notices") required or permitted to be given pursuant to this MOA, or which are given with respect to this MOA, shall be in writing and shall be personally served or deposited

in the United States mail, registered or certified, return receipt requested, postage prepaid, or delivered by overnight courier service with charges prepaid, addressed as set forth below, or such other address as such party shall have specified most recently by written notice. Notice shall be deemed given on the date of receipt.

To Manufacturer:

[specify]

with a copy to: [specify]

To ARB:

James D. Boyd
Executive Officer
Air Resources Board
P.O. Box 2815
Sacramento, CA 95812

or: 2020 L Street
Sacramento, CA 95814

with a copy to:

K.D. Drachand, Chief
Mobile Source Division
Air Resources Board
9528 Telstar Avenue
El Monte, CA 91731-2990

Michael P. Kenny
General Counsel
Air Resources Board
P.O. Box 2815
Sacramento, CA 95812

XII. This MOA shall be governed by and construed in accordance with the laws of the State of California.

XIII. Assignment. This MOA and the rights, duties and obligations under it may not be assigned by ARB or Manufacturer without the prior written consent of the other party. Any assignment or delegation of rights, duties, or obligations under the MOA made without the prior written consent of the other party to this MOA hereto shall be void and of no effect.

Dated:

Dated:

James D. Boyd
Executive Officer
AIR RESOURCES BOARD

[name]
[title]
[Manufacturer]

Initialed: _____
[name]
[title]
[Manufacturer]