File

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-014-0432
Relating to Certification of New Motor Vehicles

TOYOTA MOTOR CORPORATION

Pursuant to the authority vested in the Air Resources Board by the Health and Safety Code, Division 26, Part 5, Chapter 2; and

Pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-45-9;

IT IS ORDERED AND RESOLVED: That the following new pure electric motor vehicles are certified as described below:

Model Year: 2002

Vehicle Type: 3751-5750 Pound Loaded Vehicle Weight Light-Duty Truck

Exhaust Emission Standard Category: Zero-Emission Vehicle (ZEV)

Fuel Type: Battery-Stored Electricity

Engine Family: 2TYXT00.0ZZZ

Battery Type: Nickel Metal Hydride

Vehicle Model: Toyota RAV4 EV

BE IT FURTHER RESOLVED: That the manufacturer is certifying the listed vehicles per Title 13, California Code of Regulations, Section 1962 (b)(3) (Implementation Prior to 2003 Model Year).

BE IT FURTHER RESOLVED: That because the listed vehicle models are powered by battery-stored electricity and have no on-board systems which consume any fuel other than electricity, the vehicles produce zero exhaust or evaporative emissions of any criteria pollutant (or precursor pollutant) and therefore qualify as ZEVs according to Title 13, California Code of Regulations, Section 1962 (a); the listed vehicle models also meet the definition of "low-emission motor vehicle" set forth in Health and Safety Code Sections 39037.05 and 43800.

BE IT FURTHER RESOLVED: That the listed vehicle models qualify for and shall be granted a per-vehicle ZEV credit equal to 0.095 grams non-methane organic gases (NMOG) per mile (for early introduction), and (for extended electric vehicle range) a multiplier of 5.5 pursuant to Title 13, California Code of Regulations, Section 1962 (d).

BE IT FURTHER RESOLVED: That the listed vehicle models shall not be equipped with any fuel-fired auxiliary power sources or heaters.

BE IT FURTHER RESOLVED: That the listed vehicle models shall comply with the "California Motor Vehicle Emission Control and Smog Index Label Specifications" (Title 13, California Code of Regulations, Section 1965) for the aforementioned model year.

BE IT FURTHER RESOLVED: That the listed vehicle models shall be clearly labeled as "low-emission motor vehicle" pursuant to the requirements of Health and Safety Code Section 43802 (a).

BE IT FURTHER RESOLVED: That because the vehicles certified by this executive order have no parts that affect emissions for which there is an applicable emission requirement, the manufacturer is not required to provide an emission control system warranty pursuant to Health and Safety Code Section 43205 or Title 13, California Code of Regulations, Section 2035 et seq.

Quarterly production reports shall be submitted to the Executive Officer no later than 45 days after the end of each quarter.

Vehicles certified under this executive order must conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this order.

Executed at El Monte, California this 2nd day of November 2001.

R. B. Summerfield, Chief
Mobile Source Operations Division

17.02.00.00

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2002 MODEL-YEAR AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET ZEV-PASSENGER CARS, LIGHT-DUTY TRUCKS AND MEDIUM-DUTY VEHICLES

Manufacturer: Toyota Test Group: 2TYXT00.0ZZZ
Veh Class(es): PC___ LDT1___ LDT2_x_ MDV1___ MDV2___ MDV3___ MDV4___ MDV5___
No. of ZEV Credits per vehicle: 0.095
Fuel Type: Electro chemical Battery_x_ Fuel Cell___ Capacitor___ Other (specify):_____
Battery Type(s): Lead Acid___ Nickel Cadmium___ SBLA___ Sodium Sulfur___
Sodium Nickel Chloride___ Nickel Metal Hydride_x_ Lithium Metal Disulfide___
Zinc Air___ Zinc Bromine___ Lithium Polymer___ Other (specify):_____
Total Battery Weight: 450 kg Total Battery Volume:_____ Battery Voltage: 12 V
No. of batteries or modules per vehicle: 24 Total Battery Voltage: 288 V
Charger(s): on-board___ off-board_x_ conductive___ inductive_x_
Drive Motors(s): AC Induction___ DC Brush___ DC Brushless_x_
Switched Reluctance___ Other (specify):_____
No. of Drive Motors_1_ Maximum motor power 50 kW @ 3100 ~4600 rpm Max rpm: 8600
Drive: FWD_x_ RWD___ 4WD-FT___ 4WD-PT___
Regenerative Braking: No___ Yes_x_ FW_x_ RW___ AW___
Driver Controlled Regen Braking: Yes_x_ No___ Coast Regen Braking: Yes_x_ No___
Air Conditioning: Yes_x_ No___
Fuel Fired Heater: Yes___ No_x_ Fuel Type: Gas___ Diesel___ CNG___ LNG___
LPG___ Other (specify):_____ Rated Heat Power:_____kW

Vehicle Models (If coded see attachment)	Trans. Type	GVWR (lbs)	Curb Weight (lbs)	ETW (lbs)
RAV4 EV (BEA11L-AWDHSA)	A1	4,316	3,490	3,750

Test Procedure and Road Load

	Test Procedure	Road Load		Applicable Test
		A/C Adjustment	Set A, B, C [Target] (N)	
EPA	SAEJ1634 '99	10% UP by "C" *1	F=13.51+0.9263 V+0.04166 V^2	City and Hwy
CARB	CARB latest way (same as SAEJ1634 '99)	Without (approved)	F=13.51+0.9263 V+0.03663 V^2 [F=88.13+1.2040 V+0.03756 V^2]	City and Hwy

*1) The road load is increased 10% at 50mph point by adjusting "C".
"C" is the coefficient of the velocity squared term in the equation (C is in $A+BV+CV^2$).