File

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-15-320
Relating to Certification of New Motor Vehicles

NISSAN MOTOR CO., LTD.

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 1998 model-year Nissan Motor Co., Ltd. new pure electric motor vehicles are certified as described below for passenger cars:

Emission Standard Category: Zero-Emission Vehicle (ZEV)

Fuel Type: Battery-Stored Electricity

Engine Family: WNSXV0000GLA

Battery Type: Lithium Ion

Vehicle Model: Altra EV

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 1960.1(g)(1), note (2.1); 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 have demonstrated, based on the specific energy of the battery, to qualify for and shall be granted 2.8 ZEV placement credits for purposes of paragraph I.D.2. of the Memorandum of Agreement between the manufacturer and the Air Resources Board.

BE IT FURTHER RESOLVED: That to the extent that the manufacturer exceeds its obligation to place new ZEVs with advanced technology batteries into service in California urban areas pursuant to said Memorandum of Agreement, the listed vehicle models have demonstrated, based on the vehicle range or on the specific energy of the battery, to qualify for and shall be granted three ZEV credits for purposes of Title 13, California Code of Regulations, Section 1960.1(g)(2), note (9)a.

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 vehicles" 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, Sections 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 14th day of January 1998.

R. B. Summerfield, Chief
Mobile Source Operations Division

CONFIDENTIAL

17.06.00 Supplemental Data Sheet

E.O.# A-15-320
Page 1

1998 MODEL-YEAR AIR RESOURCES BOARD SUPPLEMENTAL DATA SHEET

ZEV-PASSENGER CARS, LIGHT-DUTY TRUCKS AND MEDIUM-DUTY VEHICLES

Manufacturer: NISSAN MOTOR CO., LTD. Engine Family : WNSXV0000GLA

Veh Class(es): PC X LDT1 __ LDT2 __ MDV1 __ MDV2 __ MDV3 __ MDV4 __ MDV5 __

No. of ZEV Credits per vehicle : 2.77 1/

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 ___ Lithium Metal Disulfide ___

Zinc Air ___ Zinc Bromine ___ Lithium polymer ___ Other(specify) Lithium Ion

Total Battery Weight 380.7 kg Total Battery Volume 2.82 m2

Battery specific energy density 83.0 Wh/kg

No. of batteries or modules per vehicle 12 Total Battery Voltage 345 v (Rated)

Charger(s) : on-board ___ off-board X conductive ___ inductive X

Drive Motors(s) : AC Induction ___ DC Brush ___ DC Brushless ___

Switched Reluctance ___ Other(specify) AC Synchronous

No. of Drive Motors 1 Rated motor power 62 KW @ 3720~8500 rpm Max rpm 13100

Drive : FWD X RWD ___ 4WD-FT ___ 4WD-PT ___

Regenerative Braking : No ___ Yes X FW X RW ___ AW ___

Driver Controlled Regen Braking : Yes ___ No X Coast Regen Braking : Yes X No ___

Air Conditioning : Yes X No ___

Fuel Fired Heater, (NA) Fuel Type : Gas ___ Diesel ___ CNG ___ LNG ___

LPG ___ Other(specify) ___ Rated Heat Power ___ kW

Vehicle Models (if coded see attachment)	Trans. type M5, A4 (if applicable)	GVWR	ETW or Test Weight	DPA or RLHP
Altra-EV	NA	4579	4000	$RL=A+B'V^2$ *1

*1 A=36.09
B'=0.032969

Issue Date : 10/09/97
Revision Date : 1/ 01/09/98