State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-338-001
Relating to Certification of New Heavy-Duty Engines and Vehicles

CAPSTONE TURBINE CORPORATION

Pursuant to the authority vested in the Air Resources Board at Sections 43100, 43101, and 43102 of the Health and Safety Code; and

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

IT IS ORDERED AND RESOLVED: That the following turbine engines produced by the manufacturer are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 14,000 pounds:

Model Year: 2001

Fuel Type: Compressed Natural Gas (CNG)

Engine Family	Displacement Liters	Displacement Cubic Inches	Exhaust Emission Control Systems and Special Features
1CSTH540.CNG (330 HEV-CNG)	N/A	N/A	Engine Control Module Recuperation

Engine models and codes are listed on attachments.

BE IT ORDERED AND RESOLVED: That the following are the certification exhaust emission standards for this engine family in grams per brake horsepower-hour under a modified Federal Test Procedure ("FTP") for Heavy-Duty Diesel Engines (Title 13, California Code of Regulations, Section 1956.8):

	Non-Methane Hydrocarbons	Carbon Monoxide	Nitrogen Oxides	Particulate Matter
"FTP"	1.2	15.5	0.5	0.05

BE IT FURTHER RESOLVED: That the following are the certification exhaust emission [illegible] values for this engine family in grams per brake horsepower-hour:

	Non-Methane Hydrocarbons	Carbon Monoxide	Nitrogen Oxides	Particulate Matter
"FTP"	0.4	0.4	0.3	0.004

BE IT FURTHER RESOLVED: That the listed engine models are certified for use in urban buses.

BE IT FURTHER RESOLVED: That the listed engine models are certified to the optional lower-emission NOx standard pursuant to Title 13, California Code of Regulations, Section 1956.8(a)(1).

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with the Board's emission control system warranty provisions (Title 13, California Code of Regulations, Sections 2035 *et seq.*).

Engines 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 and attachments.

Executed at El Monte, California this 20th day of December 2000.

R. B. Summerfield, Chief
Mobile Source Operations Division

Part Number Summary Form

Manufacturer: **Capstone Turbine Corporation**

Engine category: **Urban Bus**

EPA Engine Famly: **1CSTH540.CNG**

Mfr Family Name: **330 HEV - CNG**

Process Code: **New Submission**

Engine Code	Engine Model	Injection Pump	Injector	Turbo Charge	Electronic Control Module	After Treatment Device	Smoke Puff Limiter	Sensor Assemblies	
								Description	Part Number
509497	330	None	508729	None	508690	None	None	NA	
509120	330	None	508729	None	508690	None	None	NA	

TCbo

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ATTACHMENT

Engine Model Summary Form

Manufacturer: **Capstone Turbine Corporation**
Engine category: **Urban Bus**
EPA Engine Family: **1CSTH540.CNG**
Mfr Family Name: **330 HEV - CNG**
Process Code: **New Submission**

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
509497	330	30 kW@96,000	6833 Btu/min	NA	NA	NA	NA	ECM, RECUPERATION
509120	330	30 kW@96,000	6833 Btu/min	NA	NA	NA	NA	ECM, RECUPERATION

ATTACHMENT A-338-1