State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-326-18
Relating to Certification of New Heavy-Duty Motor Vehicle Engines

POWER SYSTEMS ASSOCIATES

Pursuant to the authority vested in the Air Resources Board by Sections 43100, 43102 and 43103 of the Health and Safety Code; and

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

Pursuant to the December 15, 1998 Settlement Agreement between the Air Resources Board and Caterpillar, Inc. and any modifications to the Settlement Agreement;

IT IS ORDERED AND RESOLVED: That the following engine and emission control system 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) plus Diesel multi-fuel, or
Liquefied Natural Gas (LNG) plus Diesel multi-fuel, or
Diesel-only (default operation)

Engine Family	Engine Displacement Liters	(Cubic Inches)	Exhaust Emission Control Systems and Special Features
1PSXH0729E6J (C-12)	12.0	(729)	Turbocharger Charge Air Cooler Engine Control Module (Diesel) Engine Control Module (CNG/LNG) Direct Diesel Injection

Engine models and codes are listed on attachments.

The following are the certification exhaust emission standards for this engine family in grams per brake horsepower-hour: (The standards in parentheses are for diesel-only default operation.) (Title 13, California Code of Regulations, Sections 1956.8(a)(1) Footnote T and 1956.8(a)(3))

Non-Methane (Total) Hydrocarbons	Carbon Monoxide	Nitrogen Oxides	Particulate Matter
1.2 (1.3)	15.5 (15.5)	2.5 (4.0)	0.10 (0.10)

The following are the certification exhaust emission values for this engine family in grams per brake horsepower-hour: (The values in parentheses are for diesel-only default operation.)

Non-Methane (Total) Hydrocarbons	Carbon Monoxide	Nitrogen Oxides	Particulate Matter
0.5 (0.2)	4.1 (1.0)	2.4 (3.8)	0.10 (0.08)

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, Section 2035 et seq.).

BE IT FURTHER RESOLVED: That the aforementioned engine family has been conditionally certified subject to the following conditions:

1. The Settlement Agreement (with Caterpillar, Inc.) is in effect.
2. Caterpillar, Inc. is in compliance with all applicable certification requirements of the Settlement Agreement.

Engines certified under this Executive Order must conform to all applicable California emission regulations and to all applicable terms and conditions of the Settlement Agreement.

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

Executed at El Monte, California this 3RD day of May 2001.

FOR

R. B. Summerfield, Chief
Mobile Source Operations Division

ATTACHMENT

LARGE ENGINE MODEL SUMMARY

Manufacturer: **POWER SYSTEMS ASSOCIATES, LLC** Process Code: **New Submission** A-326-18

EPA Engine Family: **1PSXH0729E6J** Manufacturer Family Name: **DUAL-FUEL C-12**

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
1	DUAL-FUEL C-12	410 @ 1900	22.4 (diesel)	14.2 (diesel)	1258 @ 1200	16.3 (diesel)	6.5 (diesel)	ECM-2,DI,CAC,TC
			156.4 mg (gas)	117.5 (gas)		178.4 (gas)	84.8 (gas)	
2	DUAL-FUEL C-12	370 @ 1900	22.4 (diesel)	14.2 (diesel)	1258 @ 1200	16.3 (diesel)	6.5 (diesel)	ECM-2,DI,CAC,TC
			145.0 (gas)	108.8 (gas)		178.4 (gas)	84.8 (gas)	

ECM-2 { ECM (Diesel) / ECM (CNG/LNG) }