State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-21-197-1

Relating to Certification of New Heavy-Duty Engines and Vehicles

CUMMINS ENGINE COMPANY, INC.

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;

IT IS ORDERED AND RESOLVED: That the following 1998 model-year Cummins Engine Company, Inc. diesel-cycle engines are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 14,000 pounds:

Fuel Type: Diesel

Engine Family	Engine Displacement Liters	(Cubic Inches)	Exhaust Emission Control Systems and Special Features
WCEXH0359BAE	5.9	(359)	Turbocharger Charge Air Cooler Powertrain Control Module

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:

Total Hydrocarbons	Carbon Monoxide	Nitrogen Oxides	Particulates
1.3	15.5	4.0	0.10

The following are the certification exhaust emission values for this engine family in grams per brake horsepower-hour:

Total Hydrocarbons	Carbon Monoxide	Nitrogen Oxides	Particulates
0.1	1.0	3.7	0.09

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. Any engine which employs a defeat device shall not be covered by this Executive Order.

2. Within 120 days following the issuance of Executive Order A-21-197, the manufacturer must show cause, to the satisfaction of the Executive Officer or his designee, that the strategy for fuel injection timing, including timing during the fuel economy mode, is not a defeat device.

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 11th day of May 1998.

R. B. Summerfield, Chief
Mobile Source Operations Division

LARGE ENGINE MODEL SUMMARY

11/22/97

Manufacturer: Cummins Engine Company, Inc.

Process Code: New Submission

EPA Engine Family: WCEXH0359BAE

Manufacturer Family Name: 403K

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
CPL2450								
FR90133	ISB 250	263@2300	121	94	660@1600	123	66	PCM, TC, CAC
CPL2449								
FR90238	ISB 230	242@2300	108	84	660@1600	123	66	PCM, TC, CAC
FR90099	ISB 230	242@2300	108	84	605@1600	115	62	PCM, TC, CAC
CPL2448								
FR90237	ISB 215	219@2400	96	78	605@1600	115	62	PCM, TC, CAC
FR90100	ISB 215	219@2400	96	78	520@1600	96	52	PCM, TC, CAC
FR90151	ISB 210	215@2400	94	76	520@1400	100	47	PCM, TC, CAC
CPL2447								
FR90236	ISB 195	201@2400	89	72	520@1600	96	52	PCM, TC, CAC
FR90150	ISB 190	195@2400	86	70	520@1400	100	47	PCM, TC, CAC
CPL2446								
FR90101	ISB 175	180@2400	80	65	420@1600	78	42	PCM, TC, CAC

A-21-197-1