State of California AIR RESOURCES BOARD

EXECUTIVE ORDER A-21-220

Relating to Certification of New Heavy-Duty Motor Vehicles

CUMMINS ENGINE COMPANY, INC.

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 Cummins Engine Company, Inc. 1998 model diesel-derived engines are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 14,000 pounds:

Fuel Type: Compressed Natural Gas (CNG) or Liquefied Natural Gas (LNG)

Engine Family		acement <u>Cubic Inches</u>	Exhaust Emission Control Systems and Special Features
WCEXH0505CAJ (553F)	8.3	505	Oxidation Catalytic Converter Engine Control Module Heated Oxygen Sensor Turbocharger Charge Air Cooler

The 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 (Title 13, California Code of Regulations, Section 1956.8(a)(1)):

Non-methane	Carbon	Nitrogen	<u>Particulates</u>
<u>Hydrocarbons</u>	<u>Monoxide</u>	<u>Oxides</u>	
1.2	15.5	2.5	0.05

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

Non-methane	Carbon	Nitrogen	<u>Particulates</u>
<u>Hydrocarbons</u>	<u>Monoxide</u>	Oxides	
0.2	0.6	1.7	0.01

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 2036(d)).

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

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

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.

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R. B. Summerfield, Ćhief

Mobile Source Operations Division

LARGE ENGINE MO EL SUMMARY

Manufacturer: Cummins Engine Company

EPA Engine Family: WCEXH0505CAJ

Manufacturer Family Name:

Process Code: New Submission

4.Fuel Rate: 5.Fuel Rate:
mm³/stroke @ peak (lbs/hr) @ peak HP 6.Torque @ RPM 7.Fuel Rate:
HP (for diesels only) (SAE Gross) mm³/stroke@peak torque

3.BHP@RPM (SAE Gross)

2.Engine Model

1.Engine Code

553F

(lbs/hr)@peak foreue

9.Emission Control Device Per SAE J1930

		OC ECM-HO2S TC-CAC			OC, ECM-HOZS, TC-CAC	OC ECM-HOZS TC-CAC	
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endne		na			œ.	na	
		na 750 @ 1400			la / 50 @ 1400	na 660 @ 1400	
		na			5	r L	
		275 @ 2400		250 @ 2400	2012 (3) 222	250 (@ 24 00	
	C8.3-275G	200200 2000	C8.3-250G				
	CPL 2290	FK 90304	OPL 2400	FR 90270	ER any 74	1120211	

10/15/98