State of California AIR RESOURCES BOARD

EXECUTIVE ORDER A-13-122-2

Relating to Certification of New Heavy-Duty Motor Vehicle Engines

CATERPILLAR, 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 Caterpillar, Inc. diesel-cycle engines are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 14,000 pounds:

<u>Fuel Type</u>: Diesel

Engine Family	Engine	Displacement	Exhaust Emission Control
	<u>Liters</u>	(Cubic Inches)	Systems and Special Features
WCPXH0629ERK	10.3	(629)	Turbocharger Charge Air Cooler Engine 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	Carbon	Nitrogen	<u>Particulates</u>
<u>Hydrocarbons</u>	<u>Monoxide</u>	<u>Oxides</u>	
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	Carbon	Nitrogen	<u>Particulates</u>
<u>Hydrocarbons</u>	<u>Monoxide</u>	<u>Oxides</u>	
0.2	1.1	3.7	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. Any engine which employs a defeat device shall not be covered by this Executive Order.
- 2. Within 150 days following the issuance of Executive Order A-13-122, 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 25

R. B. Summerfield, Chief

Mobile Source Operations Division

day of March 1998.

EO: A-13-122-2

Manufacturer: CATERPILLAR INC.

EPA Engine Family: MCPXH0629EBK

2.Engine Model

1.Engine Code

3.BHP@RPM (SAE Gross)

mm/stroke @ peak HP (for diesel only)

4.Fuel Rate:

(lbs/hr) @ peak HP (for diesels only) 5.Fuel Rate;

Manufaclurer Family Name;

Process Code: New Submission

6.Torque @ RPM (SEA Gross)

7.Fuel Rate:

NA

mm/stroke@peak lorque

(Ibs/hr)@peak torque Device Per SAE J1930 9.Emission Control 8.Fuel Rate:

EM, DIGPO, ECM EM, DICAC, ECM EM, DICAC, ECM, EM, DICAC, ECM EM, DI, TC, ECM EM, DICAC, ECM EM, DICTO, ECM EM, DICAC, ECM EM, DICTO, ECM EM, DICAC, ECM EM, DICAG, ECM EM, DICAC, ECM EM, DICAC, ECM EM, DICAG, ECM. EM, DICAG, ECM EM, DICAG, ECM may change. 97.0 97.0 97.0 89.0 89.0 97.0 89.0 97.0 89.0 82.0 75.0 82.0 82.0 75.0 these fuel rates 220 220 220 240 203 203 186 ion engine avgs. 1350 @ 1200 1350 @ 1200 1250 @ 1200 1350 @ 1200 1350 @ 1200 1250 @ 1200 1250 @ 1200 1350 @ 1200 1350 @ 1200 1250@1200 1150@1200 1050 @ 1200 1150@1200 1150 @ 1200 1050 @ 1200 1150@1200 Due to product-117.8 105.8 116.0 110.5 111.0 100.00 105.8 111.0 105.8 105.8 100,00 99.0 95.4 99.0 nominal values. 192 182 183 175 175 183 175 165 164 158 165 164 fuel rates are 370 @ 1800 370 @ 1800 365 @ 1800 350 @ 1800 350 @ 1800 335 @ 1800 335 @ 1800 350 @ 1800 335 @ 1800 335@ 1800 305 @ 1800 305 @ 1800 305 @ 1800 305 @ 1800 305 @ 1800 305 @ 1800 and Peak Torque C-10 C-10 C-10 C- 10 C-10 C-19 C-10 C-10 C-10 C-10 0-10 C-10 C-10 C-10 Note: Peak HP 1 - Cert Engine 은 c F 7 13 4 S 15 မ G 8