State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-1-131
Relating to Certification of New Heavy-Duty Off-Road Equipment Engines

CATERPILLAR, INC.

Pursuant to the authority vested in the Air Resources Board at Sections 43000.5, 43013, and 43018 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; and

IT IS ORDERED AND RESOLVED: That the following diesel engines and exhaust emission control systems produced by the manufacturer are certified as described below for use in heavy-duty off-road equipment:

Model Year: 2000

Typical Equipment Usage: Industrial equipment

Engine Power Ratings Range: 175 horsepower and greater

Fuel Type: Diesel

Engine Family	Displacement Liters	Displacement Cubic Inches	Exhaust Emission Control Systems and Special Features
YCPXL15.8ERK	15.8	969	Engine Control Module Turbocharger Charge Air Cooler

The engine models and codes are listed on attachments. Production engines shall be in all material respects the same as those for which certification is granted.

The exhaust emission certification standards and certification values in grams per brake horsepower-hour (g/bhp-h) for engines with power ratings between 175 and 750 horsepower, inclusive, for total hydrocarbons (THC), carbon monoxide (CO), nitrogen oxides (NOx), and particulate matter (PM), and the opacity-of-smoke certification standards and certification values in percent (%) during acceleration (Accel), lugging (Lug), and the peak-values from either mode (Peak) for this engine family are as follows (Title 13, California Code of Regulations, Section 2423):

	Exhaust Emissions (g/bhp-h)				Smoke Opacity (%)		
	THC	CO	NOx	PM	Accel	Lug	Peak
Standard	1.0	8.5	6.9	0.4	20	15	50
Certification	0.1	0.5	6.6	0.05	3	0.1	12

The exhaust emission certification standards and certification values in grams per brake horsepower-hour (g/hp-h) for engines with power ratings above 750 horsepower for total hydrocarbons (THC), carbon monoxide (CO), nitrogen oxides (NOx), and particulate matter (PM), and the opacity-of-smoke certification standards and certification values in percent (%) during acceleration (Accel), lugging (Lug), and the peak-values from either mode (Peak) for this engine family are as follows (Title 13, California Code of Regulations, Section 2423):

	Exhaust Emissions (g/hp-h)				Smoke Opacity (%)		
	THC	CO	NOx	PM	Accel	Lug	Peak
Standard	1.0	8.5	6.9	0.4	20	15	50
Certification	0.03	0.4	6.2	0.04	3	1	4

BE IT FURTHER RESOLVED: That the listed engine models comply with "Exhaust Emission Standards and Test Procedures—Heavy-Duty Off-Road Diesel-Cycle Engines" (Title 13, California Code of Regulations, Section 2423) for the aforementioned model-year.

BE IT FURTHER RESOLVED: That the listed engine models also comply with "Emission Control Labels—1996 and Later Heavy-Duty Off-Road Diesel-Cycle Engines" (Title 13, California Code of Regulations, Section 2424) for the aforementioned model-year.

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 2425 *et seq.*).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

Executed at El Monte, California this 29th day of December 1999.

Raphael Susnowitz

for R. B. Summerfield, Chief
Mobile Source Operations Division

11/29/99

LARGE ENGINE MODEL SUMMARY

E0:U-R-1-131

Manufacturer: **CATERPILLAR INC.**

Process Code: **New Submission**

EPA Engine Family: **YCPXL15.8ERK**

Manufacturer Family Name: **NA**

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	3456	660 @ 2100	308	217.7	2247 @ 1400	418	197.0	EM, DI, TC, ECM,
2	3456	515 @ 1800	282	170.6	2069 @ 1400	381	179.2	EM, DI~~CAC~~, ECM,
3	3456	500 @ 1800	271	164.0	1992 @ 1400	368	173.2	EM, DI~~CAC~~, ECM,
4	3456	475 @ 1800	250	151.5	1881 @ 1400	337	157.1	EM, DI~~CAC~~, ECM,
5	3456	450 @ 1800	245	148.5	1780 @ 1400	334	157.1	EM, DI~~CAC~~, ECM,
6	3456	425 @ 1800	230	139.3	1713 @ 1400	312	147.0	EM, DI~~CAC~~, ECM,
7	3456	550 @ 2000	279	187.4	1986 @ 1400	362	170.5	EM, DI~~CAC~~, ECM,
8	3456	525 @ 2000	260	175.3	1853 @ 1400	340	160.0	EM, DI~~CAC~~, ECM,
9	3456	500 @ 2000	252	169.7	1793 @ 1400	328	154.4	EM, DI~~CAC~~, ECM,
10	3456	475 @ 2000	241	162.3	1705 @ 1400	312	146.8	EM, DI~~CAC~~, ECM,
11	3456	450 @ 2000	227	152.4	1595 @ 1400	291	137.0	EM, DI~~CAC~~, ECM,
12	3456	425 @ 2000	211	142.2	1505 @ 1400	276	129.9	EM, DI~~CAC~~, ECM,
13	3456	550 @ 1800	303	183.2	2213 @ 1400	418	197.0	EM, DI~~CAC~~, ECM,
14	3456	525 @ 1800	288	174.1	2106 @ 1400	389	183.3	EM, DI~~CAC~~, ECM,
15	3456	500 @ 1800	271	164.0	1986 @ 1400	368	173.2	EM, DI~~CAC~~, ECM,
16	3456	475 @ 1800	260	157.1	1875 @ 1400	349	164.6	EM, DI~~CAC~~, ECM,
17	3456	450 @ 1800	245	148.5	1780 @ 1400	334	157.1	EM, DI~~CAC~~, ECM,
18	3456	600 @ 2100	284	201.1	2067 @ 1400	384	180.8	EM, DI~~CAC~~, ECM,
19	3456	575 @ 2100	278	196.7	1958 @ 1400	363	170.8	EM, DI~~CAC~~, ECM,
20	3456	550 @ 2100	265	186.9	1855 @ 1400	343	161.6	EM, DI~~CAC~~, ECM,
21	3456	525 @ 2100	253	179.0	1776 @ 1400	326	153.7	EM, DI~~CAC~~, ECM,
22	3456	630 @ 2100	295	208.3	2160 @ 1400	402	189.3	EM, DI~~CAC~~, ECM,
23	3456	600 @ 2100	293	206.7	2071 @ 1400	381	179.6	EM, DI~~CAC~~, ECM,
24	3456	565 @ 2100	273	193.1	1932 @ 1400	358	168.4	EM, DI~~CAC~~, ECM,
25	3456	625 @ 2100	302	213.2	2172 @ 1400	402	189.1	EM, DI~~CAC~~, ECM,
26	3456	575 @ 2100	279	197.0	2003 @ 1400	369	173.7	EM, DI~~CAC~~, ECM,
27	3456	550 @ 2100	265	187.0	1847 @ 1400	340	160.0	EM, DI~~CAC~~, ECM,
28	3456	525 @ 2100	252	178.0	1766 @ 1400	328	154.5	EM, DI~~CAC~~, ECM,
29	3456	600 @ 2100	287	202.6	2026 @ 1400	377	177.5	EM, DI~~CAC~~, ECM,
30	3456	515 @ 2100	242	171.0	1744 @ 1400	320	150.9	EM, DI~~CAC~~, ECM,
31	3456	520 @ 1900	265	169.3	1949 @ 1200	349	140.9	EM, DI~~CAC~~, ECM,
32	3456	525 @ 1900	266	169.7	2061 @ 1200	371	149.7	EM, DI~~CAC~~, ECM,
33	3456	494 @ 1900	249	159.4	1942 @ 1200	345	139.4	EM, DI~~CAC~~, ECM,
34	3456	494 @ 1900	249	159.4	1942 @ 1200	345	139.4	EM, DI~~CAC~~, ECM

35 Cert En[illegible]	3456	800 @ 1800	437	2[illegible]	2687 @ 1200	494	232.9	E[illegible], TC, ECM,
36	3456	684 @ 1500	436	2[illegible]	2556 @ 1200	478	193.0	EM, [illegible], TC, ECM,
37	3456	520 @ 1900	265	169.3	1949 @ 1200	349	140.9	EM, DI, TC, ECM, CAC

TC, CAC, ECM

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