State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-1-115
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 the 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: Dozer and Industrial equipment

Engine Power Ratings Range: 175 – 750 horsepower, inclusive

Fuel Type: Diesel

Engine Family	Displacement Liters	Displacement Cubic Inches	Exhaust Emission Control Systems and Special Features
YCPXL10.5MRF	10.5	644	Smoke Puff Limiter Turbocharger

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/hp-h) 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	0.7	2.0	5.7	0.4	13	1	34

BE IT FURTHER RESOLVED: Any engine models listed on the attachments with engine power ratings less than 175 horsepower are not covered by this Executive Order.

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 7 day of December 1999.

R. B. Summerfield, Chief
Mobile Source Operations Division

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LARGE ENGINE MODEL SUMMARY

6/1/99

Manufacturer: **CATERPILLAR INC.** Process Code: **New Submission**

EPA Engine Family: **YCPXL10.5MRF** 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
Note: Peak HP	and Peak Torque	fuel rates are	nominal values.	Due to product-	ion engine avgs.	these fuel rates	may change.	
1 - Cert Engine	3306	255 @ 1800	163	98.5	949 @ 1200	201	81.1	EM, DI, TC, SPL
2	3306	215 @ 2200	120	88.8	753 @ 1400	153	71.8	EM, DI, TC, SPL
3	3306	200 @ 2200	107	79.4	658 @ 1400	127	59.8	EM, DI, TC, SPL
4	3306	200 @ 2000	112	75.6	652 @ 1400	131	61.5	EM, DI, TC, SPL
5	3306	210 @ 2000	119	79.5	687 @ 1400	143	66.7	EM, DI, TC, SPL
6	3306	190 @ 2000	107	72.0	619 @ 1400	123	58.1	EM, DI, TC, SPL
7	3306	200 @ 1800	122	73.8	732 @ 1200	149	60.2	EM, DI, TC, SPL
8	3306	200 @ 1900	122	73.8	710 @ 1200	145	58.7	EM, DI, TC, SPL
9	3306	175 @ 1800	108	63.6	637 @ 1200	132	53.4	EM, DI, TC, SPL
10	3306	150 @ 1800	90	54.2	541 @ 1200	99	40.1	EM, DI, TC, SPL
11	3306	154 @ 1900	93	59.1	536 @ 1200	109	43.9	EM, DI, TC, SPL
12	3306	151 @ 1900	91	57.9	514 @ 1200	104	42.1	EM, DI, TC, SPL
13	3306	206 @ 1900	126	80.4	695 @ 1200	148	59.5	EM, DI, TC, SPL
14	3306	171 @ 1900	104	66.5	600 @ 1200	127	51.3	EM, DI, TC, SPL
15	3306	186 @ 1900	112	71.7	623 @ 1200	128	51.5	EM, DI, TC, SPL
16	3306	199 @ 1900	121	77.4	687 @ 1200	146	58.8	EM, DI, TC, SPL
17	3306	196 @ 1900	119	76.2	677 @ 1200	143	57.9	EM, DI, TC, SPL
18	3306	209 @ 1900	128	81.8	723 @ 1200	154	62.2	EM, DI, TC, SPL
19	3306	206 @ 1900	126	80.6	720 @ 1200	152	61.3	EM, DI, TC, SPL
20	3306	164 @ 1900	99	63.0	577 @ 1200	123	49.6	EM, DI, TC, SPL
21	3306	179 @ 1900	108	68.7	611 @ 1200	125	50.5	EM, DI, TC, SPL
22	3306	176 @ 1900	106	67.5	601 @ 1200	123	49.7	EM, DI, TC, SPL
23	3306	164 @ 1900	98	62.8	576 @ 1200	132	53.3	EM, DI, TC, SPL
24	3306	179 @ 1900	108	68.7	611 @ 1200	125	50.5	EM, DI, TC, SPL
25	3306	199 @ 1900	122	77.8	711 @ 1400	146	68.5	EM, DI, TC, SPL
26	3306	189 @ 1900	115	73.5	676 @ 1400	139	65.5	EM, DI, TC, SPL
27	3306	179 @ 1900	110	70.4	640 @ 1400	130	61.3	EM, DI, TC, SPL
28	3306	179 @ 1800	114	68.9	644 @ 1400	134	62.9	EM, DI, TC, SPL
29	3306	179 @ 1900	110	70.4	640 @ 1400	130	61.3	EM, DI, TC, SPL
30	3306	189 @ 1800	118	71.7	679 @ 1400	141	66.3	EM, DI, TC, SPL
31	3306	189 @ 1900	115	73.5	676 @ 1400	139	65.5	EM, DI, TC, SPL
32	3306	194 @ 1800	122	74.1	696 @ 1400	146	68.5	EM, DI, TC, SPL

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33	3306	194 @ 1900	118	75.5	694 @ 1400	144	67.9	EM, DI, TC, SPL
34	3306	194 @ 2100	108	76.2	693 @ 1400	137	64.3	EM, DI, TC, SPL
35	3306	216 @ 1900	133	84.9	731 @ 1200	156	62.8	EM, DI, TC, SPL,
36	3306	194 @ 1900	118	75.7	687 @ 1200	155	62.7	EM, DI, TC, SPL,
37	3306	205 @ 2200	117	86.8	725 @ 1400	146	68.5	EM, DI, TC, SPL,
38	3306	190 @ 2200	109	80.7	669 @ 1400	133	62.6	EM, DI, TC, SPL,
39	3306	225 @ 2100	130	91.8	798 @ 1400	162	76.5	EM, DI, TC, SPL,
40	3306	200 @ 2100	116	82.3	708 @ 1400	141	66.5	EM, DI, TC, SPL,
41	3306	170 @ 2000	95	64.0	552 @ 1400	110	51.9	EM, DI, TC, SPL,
42	3306	220 @ 1800	135	81.6	791 @ 1200	166	66.9	EM, DI, TC, SPL,
43	3306	220 @ 1800	135	81.7	770 @ 1200	161	64.8	EM, DI, TC, SPL,
44	3306	185 @ 1800	113	68.5	675 @ 1200	136	54.8	EM, DI, TC, SPL,
45	3306	225 @ 2000	132	88.5	752 @ 1400	154	72.6	EM, DI, TC, SPL,

ENGINE FAMILY: YCPXL 10.5 MRF

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