State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-13-128

Relating to Certification of New Heavy-Duty Engines and Vehicles

CATERPILLAR, 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; and

Pursuant to the December 15, 1998 Settlement Agreement between the Air Resources Board and Caterpillar, Inc. and any modifications to the Settlement Agreement;

IT IS ORDERED AND RESOLVED: That the following 1999 model-year Caterpillar, Inc. diesel 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	Displacement Liters	Displacement Cubic Inches	Exhaust Emission Control Systems and Special Features
XCPXH0893ERK	14.6	893	Turbocharger Charge Air Cooler Electronic Control Module

The engine models and codes are listed on attachments.

BE IT ORDERED AND RESOLVED: That the following are the certification exhaust emission standards for this engine family in grams per brake horsepower-hour under the Federal Test Procedure ("FTP") for Heavy-Duty Diesel Engines (Title 13, California Code of Regulations, Section 1956.8):

	Total Hydrocarbons	Carbon Monoxide	Nitrogen Oxides	Particulate Matter
"FTP"	1.3	15.5	4.0	0.10

BE IT FURTHER RESOLVED: That pursuant to the Settlement Agreement and any modifications thereof, the aforementioned engine family is also subject to the following emission standards, in grams per brake horsepower-hour, under the EURO III tests in the Settlement Agreement, and a "Not-to-Exceed" nitrogen oxides emission standard of 7.0 grams per brake horsepower-hour:

	Total Hydrocarbons	Carbon Monoxide	Nitrogen Oxides	Particulate Matter
"EURO III"	1.3	15.5	6.0	0.10

BE IT FURTHER RESOLVED: That the following are the certification exhaust emission values for this engine family in grams per brake horsepower-hour:

	Total Hydrocarbons	Carbon Monoxide	Nitrogen Oxides	Particulate Matter
"FTP"	0.2	1.4	3.8	0.08
"EURO III"	0.1	0.3	5.2	0.03

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 2035 et seq.).

BE IT FURTHER RESOLVED: That the aforementioned engine family has been conditionally certified subject to the following conditions:

1. The Settlement Agreement is in effect.
2. The Settlement Agreement has not become null and void under Settlement Agreement Paragraph 165.
3. Caterpillar., Inc. is in compliance with all applicable certification requirements of the Settlement Agreement.

Engines certified under this Executive Order must conform to all applicable California emission regulations and to all applicable terms and conditions of the Settlement Agreement.

The Bureau of Automotive Repair will be notified by copy of this order and attachments.

Executed at El Monte, California this 22nd day of December 1998.

John Kourkli for

R. B. Summerfield, Chief
Mobile Source Operations Division

LARGE ENGINE MODEL SUMMARY

9/1/98

EO: A-13-128

Manufacturer: CATERPILLAR INC. Process Code: New Submission

EPA Engine Family: XCPXH0893ERK 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	3406	550 @ 1800	290	175.7	1850 @ 1200	327	131.9	EM, DI, TC, ECM,
2	3406	550 @ 1800	290	175.7	1850 @ 1200	327	131.9	EM, DI, TC, ECM,
3	3406	500 @ 1800	272	164.9	1850 @ 1200	329	132.9	EM, DI, TC, ECM,
4	3406	500 @ 1800	269	162.8	1850 @ 1200	327	131.9	EM, DI, TC, ECM,
5	3406	500 @ 1800	265	160.5	1850 @ 1200	329	132.8	EM, DI, TC, ECM,
6	3406	500 @ 1800	261	158.3	1850 @ 1200	327	131.9	EM, DI, TC, ECM,
7	3406	500 @ 1800	272	164.9	1850 @ 1200	312	126.1	EM, DI, TC, ECM,
8	3406	500 @ 1800	269	162.8	1850 @ 1200	310	125.1	EM, DI, TC, ECM,
9	3406	500 @ 1800	272	165.0	1850 @ 1200	329	132.8	EM, DI, TC, ECM,
10	3406	475 @ 1800	261	157.8	1650 @ 1200	293	118.2	EM, DI, TC, ECM,
11	3406	500 @ 1800	269	162.8	1850 @ 1200	327	131.9	EM, DI, TC, ECM,
12	3406	475 @ 1800	257	155.7	1650 @ 1200	290	117.2	EM, DI, TC, ECM,
13	3406	475 @ 1800	261	157.8	1750 @ 1200	312	126.1	EM, DI, TC, ECM,
14	3406	475 @ 1800	257	155.7	1750 @ 1200	310	125.1	EM, DI, TC, ECM,
15	3406	475 @ 1800	252	152.5	1750 @ 1200	312	126.1	EM, DI, TC, ECM, CAC
16	3406	475 @ 1800	248	150.4	1750 @ 1200	310	125.1	EM, DI, TC, ECM,
17	3406	475 @ 1800	261	157.8	1650 @ 1200	293	118.2	EM, DI, TC, ECM,
18	3406	475 @ 1800	257	155.7	1650 @ 1200	290	117.2	EM, DI, TC, ECM,
19	3406	475 @ 1800	253	152.5	1650 @ 1200	293	118.2	EM, DI, TC, ECM,
20	3406	475 @ 1800	248	150.4	1650 @ 1200	290	117.2	EM, DI, TC, ECM,
21	3406	455 @ 1800	248	150.4	1750 @ 1200	312	126.1	EM, DI, TC, ECM,
22	3406	455 @ 1800	248	150.4	1550 @ 1200	275	110.9	EM, DI, TC, ECM,
23	3406	455 @ 1800	245	148.3	1750 @ 1200	310	125.1	EM, DI, TC, ECM,
24	3406	455 @ 1800	245	148.3	1550 @ 1200	272	109.9	EM, DI, TC, ECM,
25	3406	455 @ 1800	248	150.4	1650 @ 1200	293	118.2	EM, DI, TC, ECM,
26	3406	455 @ 1800	245	148.3	1650 @ 1200	290	117.2	EM, DI, TC, ECM,
27	3406	455 @ 1800	242	146.3	1650 @ 1200	293	118.2	EM, DI, TC, ECM,
28	3406	455 @ 1800	238	144.2	1650 @ 1200	290	117.2	EM, DI, TC, ECM,
29	3406	435 @ 1800	236	143.1	1650 @ 1200	293	118.2	EM, DI, TC, ECM,
30	3406	435 @ 1800	233	290	1650 @ 1200	290	117.2	EM, DI, TC, ECM,
31	3406	435 @ 1800	230	139.5	1650 @ 1200	293	118.2	EM, DI, TC, ECM,
32	3406	435 @ 1800	227	137.4	1650 @ 1200	290	117.2	EM, DI, TC, ECM,

33	3406	435 @ 1800	236	143.1	1550 @ 1200	275	110.9	EM, DI, TC, ECM,
34	3406	435 @ 1800	233	141	1550 @ 1200	272	109.9	EM, DI, TC, ECM,
35	3406	435 @ 1800	230	139.5	1550 @ 1200	275	110.9	EM, DI, TC, ECM,
36	3406	435 @ 1800	227	137.4	1550 @ 1200	272	109.9	EM, DI, TC, ECM,
37	3406	410 @ 1800	222	134.4	1550 @ 1200	268	108.2	EM, DI, TC, ECM,
38	3406	410 @ 1800	211	127.9	1550 @ 1200	268	108.2	EM, DI, TC, ECM,
39	3406	410 @ 1800	222	134.4	1450 @ 1200	252	101.9	EM, DI, TC, ECM,
40	3406	410 @ 1800	211	127.9	1450 @ 1200	252	101.9	EM, DI, TC, ECM,
41	3406	435 @ 1800	224	135.5	1650 @ 1200	285	115.1	EM, DI, TC, ECM, CAC
42	3406	375 @ 1800	193	116.9	1450 @ 1200	251	101.3	EM, DI, TC, ECM,
43	3406	435 @ 1800	224	135.5	1550 @ 1200	269	108.5	EM, DI, TC, ECM,
44	3406	375 @ 1800	193	116.9	1450 @ 1200	251	101.3	EM, DI, TC, ECM,
45	3406	375 @ 1800	207	125.4	1550 @ 1200	269	108.5	EM, DI, TC, ECM,
46	3406	375 @ 1800	207	125.4	1450 @ 1200	251	101.3	EM, DI, TC, ECM,
47	3406	375 @ 1800	193	116.9	1550 @ 1200	269	108.5	EM, DI, TC, ECM,
48	3406	375 @ 1800	193	116.9	1450 @ 1200	251	101.3	EM, DI, TC, ECM,
49	3406	375 @ 1800	207	125.3	1450 @ 1200	251	101.3	EM, DI, TC, ECM,

Engine Family: XCPXH0893ERK EO: A-13-128

LARGE ENGINE MODEL SUMMARY

8/10/98

EO: A-13-128

Manufacturer: CATERPILLAR INC.

Process Code: New Sub - continued

EPA Engine Family: XCPXH0893ERK

Manufacturer Family Name:

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
50	3406	375 @ 1800	193	116.9	1450 @ 1200	251	101.3	EM, DI, TC, ECM,
51	3406	355 @ 1800	183	110.7	1450 @ 1200	250	101.1	EM, DI, TC, ECM,
52	3406	355 @ 1800	183	110.7	1350 @ 1200	237	95.5	EM, DI, TC, ECM,
53	3406	355 @ 1800	183	110.7	1350 @ 1200	237	95.5	EM, DI, TC, ECM,
54	3406	355 @ 1800	198	119.7	1450 @ 1200	250	101.1	EM, DI, TC, ECM,
55	3406	355 @ 1800	198	119.7	1350 @ 1200	232	95.5	EM, DI, TC, ECM,
56	3406	355 @ 1800	183	110.7	1450 @ 1200	250	101.1	EM, DI, TC, ECM,
57	3406	355 @ 1800	183	110.7	1350 @ 1200	237	95.5	EM, DI, TC, ECM,
58	3406	355 @ 1800	198	119.7	1350 @ 1200	237	95.5	EM, DI, TC, ECM,
59	3406	355 @ 1800	183	110.7	1350 @ 1200	237	95.5	EM, DI, TC, ECM,
60	3406	500 @ 1800	277	167.5	1850 @ 1200	334	135.0	EM, DI, TC, ECM,
61	3406	500 @ 1800	273	165.3	1850 @ 1200	332	134.0	EM, DI, TC, ECM, CAC
62	3406	500 @ 1800	277	167.5	1750 @ 1200	313	126.3	EM, DI, TC, ECM,
63	3406	500 @ 1800	273	165.3	1750 @ 1200	310	125.3	EM, DI, TC, ECM,
64	3406	435 @ 1800	224	135.5	1550 @ 1200	269	108.5	EM, DI, TC, ECM,
65	3406	500 @ 1800	290	175.6	1850 @ 1200	346	139.1	EM, DI, TC, ECM,
66	3406	475 @ 1800	256	155.0	1750 @ 1200	326	131.6	EM, DI, TC, ECM,
67	3406	475 @ 1800	256	155.0	1650 @ 1200	307	123.8	EM, DI, TC, ECM,
68	3406	435 @ 1800	232	140.7	1550 @ 1200	280	112.9	EM, DI, TC, ECM,
69	3406	375 @ 1800	209	126.4	1450 @ 1200	259	104.5	EM, DI, TC, ECM,