California Environmental Protection Agency AIR RESOURCES BOARD	CATERPILLAR, INC.	EXECUTIVE ORDER U-R-001-0192 New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in the Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 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 compression-ignition engine and emission control system produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	DISPLACEMENT (liters)	FUEL TYPE	USEFUL LIFE (hours)
2002	2CPXL10.5MRG	10.5	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection, Turbocharger, Charge Air Cooler and Smoke Puff Limiter	Loader, Generator and Industrial Equipment

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbon (HC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kw-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
130≤KW<225	Tier 1	STD	1.3	9.2	N/A	11.4	0.54	20	15	50
		CERT	0.6	8.5	--	2.1	0.32	16	5	35

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

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

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 20th day of December 2001.

R. B. Summerfield, Chief
Mobile Source Operations Division

ATTACHMENT 1 OF 3

Engine Model Summary Form

U-R-001-0192

Manufacturer: **CATERPILLAR INC.**

Engine category: **Nonroad Over 50 Hp**

EPA Engine Family: **2CPXL10.5MRG**

Mfr Family Name: **NA**

Process Code: **New Submission**

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	362 @ 1800	220	133.0	1328 @ 1200	266	107.0	EM, DI, TC, SPL,
2	3306	295 @ 2000	160	107.0	929 @ 1400	192	90.0	EM, DI, TC, SPL,
3	3306	300 @ 2200	159	118.0	991 @ 1400	203	95.0	EM, DI, TC, SPL,
4	3306	285 @ 2200	146	108.0	934 @ 1400	183	86.0	EM, DI, TC, SPL,
5	3306	260 @ 2200	134	99.0	817 @ 1400	162	76.0	EM, DI, TC, SPL,
6	3306	300 @ 2100	161	114.0	986 @ 1400	198	93.0	EM, DI, TC, SPL,
7	3306	300 @ 2100	160	113.0	985 @ 1400	194	92.0	EM, DI, TC, SPL,
8	3306	270 @ 2100	146	103.0	884 @ 1400	181	85.0	EM, DI, TC, SPL,
9	3306	310 @ 2000	169	114.0	1044 @ 1400	205	97.0	EM, DI, TC, SPL,
10	3306	290 @2000	160	108.0	963 @ 1400	194	91.0	EM, DI, TC, SPL,
11	3306	300 @ 1850	176	110.0	992 @ 1400	202	95.0	EM, DI, TC, SPL,
12	3306	300 @ 1800	179	109.0	1017 @ 1400	207	97.0	EM, DI, TC, SPL,
13	3306	300 @ 1800	179	109.0	1020 @ 1400	207	97.0	EM, DI, TC, SPL,
14	3306	300 @ 1800	181	110.0	1015 @ 1400	204	96.0	EM, DI, TC, SPL,
15	3306	300 @ 1800	178	108.0	1014 @ 1400	204	96.0	CAC, EM, DI, TC, SPL,
16	3306	285 @ 1800	170	103.0	981 @ 1200	206	83.0	EM, DI, TC, SPL,
17	3306	260 @ 1800	154	93.0	888 @ 1200	187	75.0	EM, DI, TC, SPL,
18	3306	265 @ 2200	138	102.0	847 @ 1400	168	79.0	EM, DI, TC, SPL,
19	3306	260 @ 2200	134	99.0	854 @ 1400	163	77.0	EM, DI, TC, SPL,
20	3306	250 @ 2200	130	96.0	800 @ 1400	159	75.0	EM, DI, TC, SPL,
21	3306	230 @ 2200	120	89.0	738 @ 1400	149	70.0	EM, DI, TC, SPL,
22	3306	225 @ 2200	118	87.0	701 @ 1400	141	67.0	EM, DI, TC, SPL,
23	3306	250 @ 2100	132	93.0	791 @ 1400	156	74.0	EM, DI, TC, SPL,
24	3306	250 @ 2100	132	93.0	791 @ 1400	156	74.0	EM, DI, TC, SPL,
25	3306	195 @ 2100	106	74.0	630 @ 1400	119	55.0	EM, DI, TC, SPL,
26	3306	231 @ 2000	123	83.0	718 @ 1400	144	68.0	EM, DI, TC, SPL,
27	3306	210 @ 2000	113	76.0	653 @ 1400	131	62.0	EM, DI, TC, SPL,
28	3306	265 @ 1800	155	94.0	942 @ 1200	185	75.0	EM, DI, TC, SPL,
29	3306	250 @ 1800	145	88.0	848 @ 1400	166	78.0	EM, DI, TC, SPL,

* The Cert. Engine with 362HP @1800 RPM rating is not offered for sale in CA.

ATTACHMENT 2 OF 3

Engine Model Summary Form

U-R-001-0192

Manufacturer: **CATERPILLAR INC.**

Engine category:

EPA Engine Family: **2CPXL10.5MRG**

Mfr Family Name:

Process Code: **New Sub - continued**

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.	
30	3306	250 @ 1800	149	90.0	887 @ 1400	177	83.0	EM, DI, TC, SPL,
31	3306	250 @ 1800	145	88.0	848 @ 1400	166	78.0	EM, DI, TC, SPL,
32	3306	250 @ 1800	145	88.0	832 @ 1400	166	78.0	EM, DI, TC, SPL,
33	3306	230 @ 1800	133	81.0	782 @ 1200	162	65.0	EM, DI, TC, SPL,
34	3306	210 @ 1800	121	74.0	704 @ 1200	143	58.0	EM, DI, TC, SPL,
35	3306	300 @ 2200	154	114.0	952 @ 1400	198	93.4	EM, DI, TC, SPL,
36	3306	300 @ 2200	154	113.6	988 @ 1400	195	91.7	EM, DI, TC, SPL,
37	3306	275 @ 2200	140	103.4	893 @ 1400	176	82.8	EM, DI, TC, SPL,
38	3306	275 @ 2200	140	103.4	893 @ 1400	176	82.8	EM, DI, TC, SPL,
39	3306	300 @ 2100	160	112.7	1020 @ 1400	206	97.0	EM, DI, TC, SPL,
40	3306	215 @ 2100	113	79.8	685 @ 1400	135	63.7	EM, DI, TC, SPL,
41	3306	300 @ 2100	160	112.7	1020 @ 1400	199	93.8	EM, DI, TC, SPL,
42	3306	279 @ 2200	149	110.1	906 @ 1400	187	88.0	EM, DI, TC, SPL,
43	3306	270 @ 2200	139	102.6	876 @ 1400	176	83.1	EM, DI, TC, SPL,
44	3306	288 @ 2200	148	109.6	1023 @ 1400	202	95.1	CAC, EM, DI, TC, SPL,
45	3306	285 @ 2200	148	109.5	920 @ 1400	187	88.2	EM, DI, TC, SPL,
46	3306	245 @ 2200	128	94.8	798 @ 1400	155	72.8	EM, DI, TC, SPL,
47	3306	240 @ 2200	125	92.4	745 @ 1400	156	73.3	EM, DI, TC, SPL,
48	3306	229 @ 2200	116	86.1	735 @ 1400	146	68.6	EM, DI, TC, SPL,
49	3306	229 @ 2200	116	86.1	735 @ 1400	146	68.6	EM, DI, TC, SPL,
50	3306	229 @ 2200	122	90.1	699 @ 1400	142	67.0	EM, DI, TC, SPL,
51	3306	229 @ 2200	122	90.1	699 @ 1400	142	67.0	EM, DI, TC, SPL,
52	3306	258 @ 2200	133	98.3	947 @ 1400	191	89.7	EM, DI, TC, SPL,
53	3306	258 @ 2200	133	98.3	947 @ 1400	191	89.7	EM, DI, TC, SPL,
54	3306	257 @ 2200	139	98.4	867 @ 1400	169	79.8	EM, DI, TC, SPL,
55	3306	257 @ 2100	139	98.4	867 @ 1400	169	79.8	EM, DI, TC, SPL,
56	3306	247 @ 2100	132	93.1	828 @ 1400	164	77.0	EM, DI, TC, SPL,
57	3306	247 @ 2100	132	93.1	828 @ 1400	164	77.0	EM, DI, TC, SPL,
58	3306	247 @ 2100	132	93.1	828 @ 1400	164	77.0	EM, DI, TC, SPL,
59	3306	247 @ 2100	132	93.1	828 @ 1400	164	77.0	EM, DI, TC, SPL,
60	3306	229 @ 1850	134	83.1	800 @ 1200	[illegible]	[illegible]	

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61	3306	226 @ 1850	132	82.0	789 @ 1200	177	71.5	EM, DI, TC, SPL,
62	3306	236 @ 1800	140	84.6	861 @ 1200	183	74.0	EM, DI, TC, SPL,
63	3306	236 @ 1800	141	85.5	861 @ 1200	188	76.1	EM, DI, TC, SPL,
64	3306	236 @ 1800	141	85.4	861 @ 1200	186	75.1	EM, DI, TC, SPL,
65	3306	240 @ 1800	143	86.8	875 @ 1200	189	76.3	EM, DI, TC, SPL,
66	3306	221 @ 1900	127	80.8	757 @ 1200	173	70.0	EM, DI, TC, SPL,
67	3306	201 @ 1900	115	73.5	694 @ 1200	136	55.0	EM, DI, TC, SPL,
68	3306	214 @ 1900	122	77.8	735 @ 1200	145	58.4	EM, DI, TC, SPL,
69	3306	211 @ 1900	120	76.7	723 @ 1200	142	57.4	EM, DI, TC, SPL,
72	3306	270 @ 2200	142	104.8	882 @ 1400	176	83.1	EM, DI, TC, SPL,
73	3306	250 @ 2200	132	97.3	774 @ 1400	150	70.7	EM, DI, TC, SPL,
74	3306	275 @ 2200	144	106.2	893 @ 1400	175	82.6	EM, DI, TC, SPL,
75	3306	225 @ 2200	117	86.8	720 @ 1400	146	68.8	EM, DI, TC, SPL,
76	3306	292 @ 1800	190	115.0	1085 @ 1400	206	98.0	EM, DI, TC, SPL,
77	3306	270 @ 1800	156	95.0	937 @ 1200	189	76.0	EM, DI, TC, SPL,
78	3306	275 @ 2000	144	106.0	879 @ 1400	175	82.0	EM, DI, TC, SPL,

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