California Environmental Protection Agency AIR RESOURCES BOARD	CATERPILLAR INC.	EXECUTIVE ORDER U-R-001-0452 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-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engines and emission control systems 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)
2013	DCPXL09.3HPA	9.3	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Engine Control Module, Exhaust Gas Recirculation, Periodic Trap Oxidizer, Oxidation Catalyst	Loader, Agriculture Combine, Commercial Equipment

The engine models and codes are attached.

The following are the exhaust certification standards (STD), or family emission limit(s) (FEL) as applicable, 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 ≤ 560	Interim Tier 4/ ALT NOx	STD	0.19	2.0	N/A	3.5	0.02	N/A	N/A	N/A
		FEL	N/A	N/A	N/A	N/A	0.01	N/A	N/A	N/A
		CERT	0.06	1.6	--	0.2	0.004	--	--	--

BE IT FURTHER RESOLVED: That the family emission limit(s) (FEL) is an emission level declared by the manufacturer for use in any averaging, banking and trading program and in lieu of an emission standard for certification. It serves as the applicable emission standard for determining compliance of any engine within this engine family under 13 CCR Sections 2423 and 2427.

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 27 day of July 2012.

Annette Hebert, Chief
Mobile Source Operations Division

ATTACHMENT 1 OF 1

Engine Model Summary Template

U-R-001-0452
12/3/2012 R/C

Engine Family	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
DCPXL09.3HPA	Cert Test 1	C9.3	361@1900	193	123	1252@1400	249	117	DFI,TC,ECM,CAC,EGR,PTOX,OC
DCPXL09.3HPA	Cert Test 2	C9.3	409@1900	226	144	1413@1400	305	144	DFI,TC,ECM,CAC,EGR,PTOX,OC
DCPXL09.3HPA	1 - 294/1800	C9.3	215@2275	123	94	997@1400	199	94	DFI,TC,ECM,CAC,EGR,PTOX,OC
DCPXL09.3HPA	2 - 300/2200	C9.3	137@2400	86	69	1010@1400	192	91	DFI,TC,ECM,CAC,EGR,PTOX,OC
DCPXL09.3HPA	3 - 325/2200	C9.3	149@2400	91	73	1094@1400	208	98	DFI,TC,ECM,CAC,EGR,PTOX,OC
DCPXL09.3HPA	4 - 350/2200	C9.3	160@2400	93	75	1178@1400	216	102	DFI,TC,ECM,CAC,EGR,PTOX,OC
DCPXL09.3HPA	5 - 300/2200	C9.3	137@2400	86	69	1010@1400	192	91	DFI,TC,ECM,CAC,EGR,PTOX,OC
DCPXL09.3HPA	6 - 325/2200	C9.3	149@2400	91	73	1094@1400	208	98	DFI,TC,ECM,CAC,EGR,PTOX,OC
DCPXL09.3HPA	7 - 350/2200	C9.3	160@2400	93	75	1178@1400	216	102	DFI,TC,ECM,CAC,EGR,PTOX,OC
DCPXL09.3HPA	8 - 300/2200	C9.3	135@2400	86	69	1006@1400	192	90	DFI,TC,ECM,CAC,EGR,PTOX,OC
DCPXL09.3HPA	9 - 350/1880	C9.3	345@1800	199	121	1162@1400	216	102	DFI,TC,ECM,CAC,EGR,PTOX,OC
DCPXL09.3HPA	10 - 322/1700	C9.3	240@1900	152	97	1086@1200	218	88	DFI,TC,ECM,CAC,EGR,PTOX,OC
DCPXL09.3HPA	11 - 321/1800	C9.3	271@1870	159	100	1152@1350	232	105	DFI,TC,ECM,CAC,EGR,PTOX,OC