CATERPILLAR INC.

EXECUTIVE ORDER U-R-001-0457 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	DCPXL15.2HPC	15.2	Diesel	8000			
	FEATURES & EMISSION		TYPICAL EQUIPMENT APPLICATION				
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Oxidation Catalyst, Engine Control Module, Exhaust Gas Recirculation, Periodic Trap Oxidizer			Tractor, Dozer, Articulate Truck, 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	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
POWER CLASS			нс	NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
130 ≤ kW ≤ 560	Interim Tier 4 Phase-out	STD	N/A	N/A	4.0	3.5	0.02	N/A	N/A	N/A
		FEL	N/A	N/A	2.0	N/A	0.01	N/A	N/A	N/A
		CERT			1.5	0.5	0.001			

**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 \_\_\_\_\_\_ day of August 2012.

Annette Hebert, Chief

Mobile Source Operations Division

## ATTACHMENT

## **Engine Model Summary Template**

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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)@pea torque	
DCPXL15.2HPC	Cert Test 1	C15	444@2000	228	153	1854@1200	349	141	DFI,TC,ECM,CAC,EGR,PTOX,OC
DCPXL15.2HPC	Cert Test 2	C15	252@2300	171	132	1958@1400	382	180	DFI,TC,ECM,CAC,EGR,PTOX,OC
DCPXL15.2HPC	1 - 484/1700	C15	374@2100	190	134	1837@1200	339	137	DFI,TC,ECM,CAC,EGR,PTOX,OC
DCPXL15.2HPC	2 - 355/1700	C15	154@2200	103	76	1446@1300	275	120	DFI,TC,ECM,CAC,EGR,PTOX,OC
DCPXL15.2HPC	3 - 540/2100	C15	253@2300	193	150	1823@1400	353	166	DFI,TC,ECM,CAC,EGR,PTOX,OC
DCPXL15.2HPC	4 - 580/2100	C15	252@2300	171	132	1958@1400	382	180	DFI,TC,ECM,CAC,EGR,PTOX,OC
DCPXL15.2HPC	5 - 475/2100	C15	207@2300	150	116	1603@1400	311	146	DFI,TC,ECM,CAC,EGR,PTOX,OC
DCPXL15.2HPC	5A - 475/2100	C15	207@2300	150	116	1603@1400	311	146	DFI,TC,ECM,CAC,EGR,PTOX,OC
DCPXL15.2HPC	6 - <b>44</b> 7/1 <b>70</b> 0	C15	350@2100	199	141	1696@1200	315	127	DFI,TC,ECM,CAC,EGR,PTOX,OC