CATERPILLAR INC.

EXECUTIVE ORDER U-R-001-0537-1 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-14-012;

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)		
2017	HCPXL106.NVF	84.7	Diesel	8000		
	FEATURES & EMISSION C		TYPICAL EQUIPMENT APPLICATION			
Cooler,	ic Direct Injection, Turboc Smoke Puff Limiter, Engli Selective Catalytic Redu	ne Control Module,	Pump, Loader, Tractor, 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	EMISSION		EXHAUST (g/kw-hr)					OPACITY (%)		
POWER CLASS	STANDARD CATEGORY		NMHC	√NOx	NMHC+NOx	co	PM	ACCEL	LUG	PEAK
ELSE > 560 kW	Tier 4	STD	0.19	3.5	N/A	3.5	0.04	N/A	N/A	N/A
		CERT	0.06	3.0		1.9	0.02			

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.

This Executive Order hereby supersedes Executive Order U-R-001-0537 dated January 31, 2017.

Executed at El Monte. California on this

day of February 2017.

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

ATTACHMENT 1 OF 1

Engine Model Summary Template U-R-001-0537-1 2/9/2017

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
HCPXL106.NVF	Cert 1	C175	2690 @1750	572	898	10124@1300	685	7994	TC,CAC,ECM,DFI,SCR-U,EC
HCPXL106.NVF	1	C175	2690 @1750	572	898	10124@1300	685	· (·)	TC,CAC,ECM,DFI,SCR-U,EC
HCPXL106.NVF	2	C175	2650 @1750	566	889	9499@1300	643	750	TC,CAC,ECM,DFI,SCR-U,EC
HCPXL106.NVF	3	C175	2270 @1750	490	769	9128@1300	550	642 🗸	TC,CAC,ECM,DFI,SCR-U,EC