California Environmental Protection Agency AIR RESOURCES BOARD	CATERPILLAR INC.	EXECUTIVE ORDER U-R-001-0385 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)
2010	ACPXL32.0ESW	32.0	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection, Turbocharger, Charge Air Cooler, Engine Control Module	Generator and Industrial 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
KW > 560	Tier 2	STD	N/A	N/A	6.4	3.5	0.20	N/A	N/A	N/A
		FEL	N/A	N/A	5.8	N/A	0.15	N/A	N/A	N/A
		CERT	--	--	5.4	1.6	0.13	--	--	--

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 23 day of October 2009.

Annette Hebert, Chief
Mobile Source Operations Division

Engine Model Summary Template

ATTACHMENT 1 OF 1

U-R-0070385
10/05/09

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
ACPXL32.0ESW	Cert Test 2	C32	1330@1500	462	466.3	NA	NA	NA	EM, DI, TC, CAC, ECM
ACPXL32.0ESW	1	C32	1502@1800	418	506.3	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	2	C32	1357@1800	374	453.1	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	3 Cert Engine	C32	1330@1500	469	473	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	4	C32	1357@1800	374	453.1	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	5	C32	1502@1800	418	506.3	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	6	C32	1257@1800	356	431.2	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	7	C32	1126@1800	324	392.1	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	8	C32	1502@1800	418	506.3	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	9	C32	1330@1500	469	473	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	10	C32	1502@1800	418	506.3	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	11	C32	1330@1500	469	473	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	12	C32	1257@1800	356	431.2	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	13	C32	1110@1500	408	412.2	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	14	C32	1357@1800	385	466	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	15	C32	1357@1800	385	466	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	16	C32	1502@1800	429	519	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	17	C32	1502@1800	429	519	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	18	C32	1257@1800	363	440	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	19	C32	1126@1800	333	403	NA	NA	NA	EM, DI, TC,

Engine Model Summary Template

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
ACPXL32.0ESW	Cert Test 2	C32	1330@1500	462	466.3	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	1	C32	1502@1800	418	506.3	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	2	C32	1357@1800	374	453.1	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	3 Cert Engine	C32	1330@1500	469	473	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	4	C32	1357@1800	374	453.1	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	5	C32	1502@1800	418	506.3	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	6	C32	1257@1800	356	431.2	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	7	C32	1126@1800	324	392.1	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	8	C32	1502@1800	418	506.3	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	9	C32	1330@1500	469	473	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	10	C32	1502@1800	418	506.3	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	11	C32	1330@1500	469	473	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	12	C32	1257@1800	356	431.2	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	13	C32	1110@1500	408	412.2	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	14	C32	1357@1800	385	466	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	15	C32	1357@1800	385	466	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	16	C32	1502@1800	429	519	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	17	C32	1502@1800	429	519	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	18	C32	1257@1800	363	440	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	19	C32	1126@1800	333	403	NA	NA	NA	EM, DI, TC,
ACPXL32.0ESW	20	C32	1502@1800	424	514	NA	NA	NA	EM, DI, TC,