California Environmental Protection Agency AIR RESOURCES BOARD	CUMMINS INC.	EXECUTIVE ORDER U-R-002-0300 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 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)
2005	5CEXL0409AAB	6.7	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection, Turbocharger, Charge Air Cooler, Engine Control Modules	Loader, Tractor, Dozer, Pump and Compressor

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 < 225	Tier 2	STD	N/A	N/A	6.6	3.5	0.20	20	15	50
		FEL	N/A	N/A	4.0	N/A	N/A	N/A	N/A	N/A
		CERT	--	--	3.6	1.6	0.17	6	2	14

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 22ND day of February 2005.

Allen Lyons, Chief
Mobile Source Operations Division

Engine Model Summary Form

ATTACHMENT Pg 1 of 1

U-R-002-0300

Manufacturer: **Cummins Inc.**

Engine category: **Nonroad CI**

EPA Engine Family: **5CEXL0409AAB**

Mfr Family Name: **A313**

Process Code: **Running Change**

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
8611;FR91421	QSB6.7	275@2500	129	108.8	730@1500	151	76.4 DDI,	ECM, TC, CAC
8611;FR91422	QSB6.7	260@2500	121	102	730@1500	151	76.4	ECM, TC, CAC
8610;FR91599	QSB6.7	215@2100	116	82.1	700@1200	146	68.9	ECM, TC, CAC
8466;FR91435	QSB6.7	190@2200	98	72.7	685@1400	141	66.6	ECM, TC, CAC
8466;FR91496	QSB6.7	205@2100	107	75.8	548@1500	117	59.2	ECM, TC, CAC
8466;FR91440	QSB6.7	220@2000	120	80.9	700@1400	146	73.9	ECM, TC, CAC
8466;FR91434	QSB6.7	220@2200	111	82.3	697@1500	148	74.9	ECM, TC, CAC
8466;FR91428	QSB6.7	190@2400	92	74.5	685@1500	140	70.8	ECM, TC, CAC
8611;FR91595	QSB6.7	250@2500	117	98.8	730@1500	151	76.2	ECM, TC, CAC
8611;FR91596	QSB6.7	240@2500	114	96.1	730@1500	151	76.2	ECM, TC, CAC
8611;FR91427	QSB6.7	260@2400	124	100.4	730@1500	150	75.9	ECM, TC, CAC
8611;FR91433	QSB6.7	260@2200	135	99.8	730@1400	150	71.0	ECM, TC, CAC
8611;FR91600	QSB6.7	240@2000	136	91.8	730@1500	150	75.9	ECM, TC, CAC
8610;FR91653	QSB6.7	220@2200	114	84.4	700@1500	148	75.0	ECM, TC, CAC
8610;FR91598	QSB6.7	193@2200	104	77.1	685@1400	145	68.4	ECM, TC, CAC
8466;FR91597	QSB6.7	215@2500	107	90.0	655@1500	146	73.4	ECM, TC, CAC
8466;FR91430	QSB6.7	220@2300	110	85.5	700@1500	149	75.4	ECM, TC, CAC
8466;FR91439	QSB6.7	189@2050	109	75.3	548@1500	121	61.3	ECM, TC, CAC
8466;FR91637	QSB6.7	203@2000	108	73.0	687@1400	148	69.8	ECM, TC, CAC
8466;FR91445	QSB6.7	205@1800	126	76.7	685@1300	143	62.7	ECM, TC, CAC