California Environmental Protection Agency AIR RESOURCES BOARD	Cummins Inc.	EXECUTIVE ORDER U-R-002-0215-1 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-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)
2004	4CEXL0661AAE	10.8	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection, Turbocharger, Charge Air Cooler, Engine Control Module	Crane, Loader, Tractor 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	6.4	N/A	N/A	N/A	N/A	N/A
		CERT	--	--	5.5	0.8	0.11	13	1	31

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.

This Executive Order hereby cancels and replaces Executive Order U-R-002-0215 dated August 7, 2003.

Executed at El Monte, California on this 7TH day of January 2004.

Allen Lyons, Chief
Mobile Source Operations Division

Engine Model mmary Form

ATTACHMENT Pg 1 of 1

U-R-002-0215-1

Manufacturer: **Cummins Inc.**

Engine category: **Nonroad CI**

EPA Engine Family: **4CEXL0661AAE**

Mfr Family Name: **E353**

Process Code: **New Submission**

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
8409:FR2995	QSM11-C	300@1800	158	95.7	1260@1400	237	111.7	TC,EC,CAC
8409:FR2846	QSM11-C	290@2100	137	96.8	1090@1400	209	98.6	TC,EC,CAC
8409:FR2847	QSM11-C	245@2100	118	89.0	750@1300	158	69.4	TC,EC,CAC
8409:FR2848	QSM11-C	245@2000	122	82.6	780@1300	164	72.1	TC,EC,CAC
8409:FR2850	QSM11-C	270@1800	144	87.3	1010@1400	195	92.1	TC,EC,CAC
8409:FR2917	QSM11-C	260@2100	124	87.8	975@1400	189	89.2	TC,EC,CAC
8409:FR2927	QSM11-C	290@2100	137	96.8	952@1400	181	85.6	TC,EC,CAC
8409:FR2941	QSM11-C	280@2100	132	93.7	950@1300	183	90.3	TC,EC,CAC
8409:FR2944	QSM11-C	270@2100	128	90.7	1013@1400	195	92.4	TC,EC,CAC
8409:FR2946	QSM11-C	250@2100	120	86.0	845@1300	178	78.0	TC,EC,CAC
8409:FR2996	QSM11-C	299@2100	142	100.7	1180@1400	221	104.9	TC,EC,CAC