California Environmental Protection Agency AIR RESOURCES BOARD	CUMMINS INC.	EXECUTIVE ORDER U-R-002-0449 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)
2008	8CEXL0540AAB	8.8	Diesel	8000

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

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 POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
130 ≤ kW < 450	Tier 3	STD	N/A	N/A	4.0	3.5	0.20	20	15	50
		CERT	--	--	3.9	3.3	0.15	5	2	13

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 14th day of December 2007.

J. Lourenco

Annette Hebert, Chief
Mobile Source Operations Division

ATTACHMENT B; 1 of 2

Engine Model Summary Form

U-R-002-0449

Manufacturer: **Cummins Inc.**

Engine category: **Nonroad CI**

EPA Engine Family: **8CEXL0540AAB**

Mfr Family Name: **B563**

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
8548;FR91672	QSL	350@2100	192	135.8	1120@1500	223	113.0	ECM TC CAC
8641;FR91520	QSL	350@2100	192	135.8	1120@1500	223	113.0	ECM TC CAC
8641;FR91518	QSL	365@2100	192	136.1	1113@1500	202	102.2	ECM TC CAC
8641;FR91679	QSL	340@2200	173	128.4	1096@1500	218	110.1	ECM TC CAC
8641;FR92257	QSL	365@2100	192	136.1	1113@1500	202	102.2	ECM TC CAC
8641;FR91673	QSL	345@1800	206	125.2	1095@1400	217	102.6	ECM TC CAC
8641;FR91681	QSL	330@1800	199	121.0	1075@1400	216	102.4	ECM TC CAC
8641;FR91523	QSL	325@1800	194	117.7	1050@1400	212	100.1	ECM TC CAC
8641;FR91525	QSL	300@1800	187	113.5	1000@1400	210	99.1	ECM TC CAC
8641;FR91527	QSL	280@2000	164	110.3	1000@1400	210	99.1	ECM TC CAC
8641;FR91528	QSL	280@1800	174	106.0	950@1400	197	93.0	ECM TC CAC
8647;FR91675	QSL	325@2000	178	120.1	1050@1500	217	109.8	ECM TC CAC
8647;FR91689	QSL	305@2000	174	117.4	1109@1400	216	102.2	ECM TC CAC
8647;FR91524	QSL	300@2100	170	120.4	1010@1500	210	106.2	ECM TC CAC
8647;FR91676	QSL	300@2000	173	116.7	1010@1500	211	106.7	ECM TC CAC
8647;FR91674	QSL	325@2100	176	124.6	1050@1500	213	107.7	ECM TC CAC
8647;FR91526	QSL	280@2100	165	116.6	1050@1500	214	108.3	ECM TC CAC
8647;FR91680	QSL	330@2100	178	126.0	1050@1500	213	107.7	ECM TC CAC
0422;FR91709	QSL	280@2000	164	110.3	1070@1400	212	100.1	ECM TC CAC
0422;FR92041	QSL	250@2000	145	97.5	800@1400	157	74.2	ECM TC CAC
1404;FR91996	QSL9-G3	345@1500	243	123.0	NA	NA	NA	ECM TC CAC
1404;FR91996	QSL9-G3	399@1800	239	145.2	NA	NA	NA	ECM TC CAC
1404;FR92204	QSL9-G2	374@1800	219	133.0	NA	NA	NA	ECM TC CAC
1404;FR92204	QSL9-G2	321@1500	220	111.0	NA	NA	NA	ECM TC CAC
1404;FR92201	QSL9-G1	325@1800	200	121.3	NA	NA	NA	ECM TC CAC
1404;FR92201	QSL9-G1	285@1500	201	101.4	NA	NA	NA	ECM TC CAC
8695;FR91546	QSL9-G2	364@1800	219	133.2	NA	NA	NA	ECM TC CAC
8695;FR91546	QSL9-G2	310@1500	213	107.6	NA	NA	NA	ECM TC CAC

1754;FR92067	QSL9-G2	364@1800	219	133.3	NA	NA	NA	ECM TC CAC
1754;FR92067	QSL9-G2	310@1500	213	107.6	NA	NA	NA	ECM TC CAC