California Environmental Protection Agency AIR RESOURCES BOARD	Cummins Inc.	EXECUTIVE ORDER U-R-002-0150 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-45-9;

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)
2002	2CEXL030.AAA	30	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection, Turbocharger, Charge Air Cooler, Engine Control Module	Loaders and Other 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 POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
KW > 560	Tier 1	STD	1.3	9.2	N/A	11.4	0.54	20	15	50
		CERT	0.2	6.9	--	0.5	0.11	13	2	24

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 20th day of December 2001.

R. B. Summerfield, Chief
Mobile Source Operations Division

Engine Model ' mmary Form

ATTACHMENT

U-R-002-0150

Manufacturer: **Cummins Inc.**

Engine category: **Nonroad CI**

EPA Engine Family: **2CEXL030.AAA**

Mfr Family Name: **A573**

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
2640:FR5189	QST30-C	1200@2100	300	425	3750@1400	352	332	DDI, TC,EC,CAC
2640:FR5181	QST30-C	1050@1800	286	346.8	3414@1400	309	291.9	TC,EC,CAC
2640:FR5179	QST30-C	1050@1900	273	350.1	3417@1400	309	291.9	TC,EC,CAC
2640:FR5180	QST30-C	1000@1800	272	330.3	3414@1300	313	274.7	TC,EC,CAC
2640:FR5174	QST30-C	1082@2000	271	365	3414@1400	313	296	TC,EC,CAC
2640:FR5177	QST30-C	1050@2100	257	363.3	3414@1300	313	274.7	TC,EC,CAC
2640:FR5201	QST30-C	1050@2100	257	363.3	3414@1300	313	274.7	TC,EC,CAC
2640:FR5203	QST30-G	925@1900	251	321.0	3090@1300	292	256.0	TC,EC,CAC
2640:FR5202	QST30-C	1000@2100	245	347.1	3414@1300	313	274.7	TC,EC,CAC
2640:FR5204	QST30-C	850@1800	233	282.5	2807@1400	263	248.6	TC,EC,CAC
2640:FR5170	QST30-C	897@2000	225	303	3024@1300	281	246	TC,EC,CAC
2640:FR5178	QST30-C	900@2100	222	314.7	2764@1300	256	224.8	TC,EC,CAC
2640:FR5175	QST30-C	853@2000	215	290	2807@1400	259	245	TC,EC,CAC
2640:FR5194	QST30-C	850@2000	207	293.1	2807@1400	281	265.4	TC,EC,CAC
2640:FR5176	QST30-C	760@2100	188	266	2471@1300	233	204	TC,EC,CAC