CALIFORNIA AIR RESOURCES BOARD	**CUMMINS INC.**	**EXECUTIVE ORDER U-R-002-0757** New Off-Road Compression-Ignition Engines

Pursuant to the authority vested in California 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-19-095;

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)
2021	MCEXL50.0AAF	50.0	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Electronic Control Module, Electronic Direct Injection, Selective Catalytic Reduction – Urea, Turbocharger, Charge Air Cooler, Ammonia Oxidation Catalyst	Crane, Loaders, Tractor, Dozer, Pump, Compressor and Excavator

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 non-methane hydrocarbon (NMHC), 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):

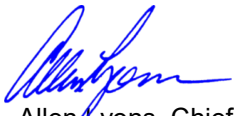
RATED POWER CLASS	EMISSION STANDARD CATEGORY		EXHAUST (g/kw-hr)					OPACITY (%)		
			NMHC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
ELSE > 560 kW	Tier 4 Final	**STD**	0.19	3.5	N/A	3.5	0.04	N/A	N/A	N/A
		CERT	0.02	3.2	--	0.1	0.02	--	--	--

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 on this 1st day of October 2020.



Allen Lyons, Chief
Emissions Certification and Compliance Division

Engine Model Summary Template

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Date: 05/22/2020

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
MCEXL50.0AAF	4261:6740	QSK50	2500@1900	506	855	7081@1500	490	654	DDI, ECM, TC, CAC, SCR-U, AMOX
MCEXL50.0AAF	4261:60217	QSK50	2300@1900	464	784	6514@1500	449	598	DDI, ECM, TC, CAC, SCR-U, AMOX
MCEXL50.0AAF	4261:60049	QSK50	2250@1900	455	768	6300@1500	435	579	DDI, ECM, TC, CAC, SCR-U, AMOX
MCEXL50.0AAF	4261:60184	QSK50	2000@1900	405	684	5805@1500	400	533	DDI, ECM, TC, CAC, SCR-U, AMOX
MCEXL50.0AAF	4261:60216	QSK50	1675@1800	352	564	5590@1500	371	495	DDI, ECM, TC, CAC, SCR-U, AMOX
MCEXL50.0AAF	4340:60084	QSK50	1500@1800	322	518	4842@1400	340	425	DDI, ECM, TC, CAC, SCR-U, AMOX
MCEXL50.0AAF	4340:60427	QSK50	1600@1800	343	552	5044@1500	353	473	DDI, ECM, TC, CAC, SCR-U, AMOX
MCEXL50.0AAF	4749:60454	QSK50	1575@1900	328	558	7389@1300	381	442	DDI, ECM, TC, CAC, SCR-U, AMOX
MCEXL50.0AAF	4749:60218	QSK50	1600@1800	346	557	6839@1500	355	475	DDI, ECM, TC, CAC, SCR-U, AMOX
MCEXL50.0AAF	4749:60278	QSK50	1500@1800	324	522	6570@1400	340	426	DDI, ECM, TC, CAC, SCR-U, AMOX
MCEXL50.0AAF	4749:60456	QSK50	1900@1800	401	646	7900@1700	414	630	DDI, ECM, TC, CAC, SCR-U, AMOX