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-14-012;

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)			
2019	KJDXL04.5304	4.5	Diesel	8000			
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS			TYPICAL EQUIPMENT APPLICATION				
Electronic Turbocharg	Control Module, Electrier, Oxidation Catalyst, I	onic Direct Injection, Periodic Trap Oxidizer	Loaders, Tractor, Dozer, Pump, Compressor, Generator Set 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	EMISSION STANDARD CATEGORY	1	EXHAUST (g/kw-hr)					OPACITY (%)		
CLASS		_	NMHC	NOx	NMHC+NOx	со	PM	ACCEL	LUG	PEAK
37 ≤ kW < 56	Tier 4 Final	STD	N/A	N/A	4.7	5.0	0.03	N/A	N/A	N/A
		FEL	-		-		0.01			
		CERT			4.4	0.1	0.001			

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

day of October 2018.

Annette Hebert, Chief Emissions Compliance, Automotive Regulations and Science Division

Engine Model Summary Form

Manufacturer: Engine category: **EPA Engine Family:** Mfr Family Name: Process Code:

1. Engine code

4045TFC03A

4045TFC03B

4045TFG03A

4045TPRNT3

John Deere Power Systems Nonroad CI KJDXL04.5304 350TCA **New Submission**

2 Engine Model

4045

4045

4045

4045

8-3-2018

3. kW@RPM

(SAE Gross)

55@2400

55@2200

55@1800

55@2400

4. Fuel Rate:

(for diesel only)

63.2@2400

67.3@2200

72.8@1800

60.2@2400

5. Fuel Rate: (kg/hr)@peak kW mm/stroke@peak kW (for diesels only) 15.5@2400 15.1@2200

13.4@1800

14.7@2400

Attachment: Page (of) 6. Torque (Nm) 7. Fuel Rate: @RPM mm/stroke@peak (SEA Gross) torque 304@1550 74.9@1550

74.8@1550

N/A 75.2@1600

304@1550

311@1600

NIA

8. Fuel Rate: (kW/hr)@peak torque 11.8@1550 11.8@1550 NIA 12.3@1600

EOH: U-R-004-0571 9. Emission Control **Device Per SAE J1930** PTOX OC TC DFI ECM NUT TREMEND PTOX OC TC DFI ECM PTOX OC TC DFI ECM PTOX OC TC DFI ECM