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)
2020	LJDXL06.8302	4.5, 6.8	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Charge Air Cooler, Oxidation Catalyst, Electronic Direct Injection, Electronic Control Module, Exhaust Gas Recirculation, Periodic Trap Oxidizer, Turbocharger, Selective Catalytic Reduction-Urea, Ammonia Oxidation Catalyst	Crane, Tractor, Loaders, Dozer, Pump, Compressor, Generator Set, Other Industrial Equipment

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 (%)		
			NMHC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
75 ≤ kW ≤ 560	Tier 4 Final	OPTIONAL STD	0.19	0.40	N/A	3.5	0.02	N/A	N/A	N/A
		FEL	--	--	--	--	0.01	--	--	--
		CERT	0.03	0.16	--	0.03	0.003	--	--	--

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has complied with the more stringent set of standards from the various power categories in conformance with Section 1039.230 (e) of the "California Exhaust Emission Standards and Test Procedures for New 2011 and Later Tier 4 Off-Road Compression Ignition Engines, Part I-D" adopted October 20, 2005 and last amended October 25, 2012.

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).

BE IT FURTHER RESOLVED: That the manufacturer has elected to include engine models in this engine family which are identified for "emergency equipment use only". These "emergency equipment use only" engines are exempt from requirements imposed pursuant to California law and the regulations adopted pursuant thereto for motor vehicle pollution control devices per California Vehicle Code Section 27156.2. The manufacturer must clearly label these engines for "emergency equipment use only" on the engines' emission control label.

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 18TH day of December 2019.

Allen Lyons, Chief
Emissions Certification and Compliance Division

Engine Model Summary Form

EO#: U-R-004-0592

Manufacturer: **John Deere Power Systems**
Engine category: **Nonroad CI**
EPA Engine Family: **LJDXL06.8302**
Mfr Family Name: **350HCA**
Process Code: **Running Change**

RC

6/15/2020

1. Engine code	2. Engine Model	3. kW@RPM (SAE Gross)	4. Fuel Rate: mm/stroke@peak kW (for diesel only)	5. Fuel Rate: (kg/hr)@peak kW (for diesels only)	6. Torque (Nm) @RPM (SEA Gross)	7. Fuel Rate: mm/stroke@peak torque	8. Fuel Rate: (kW/hr)@peak torque	9. Emission Control Device Per SAE J1930
xx *4045CI551A	4045	129@2400	122.3@2400	29.9@2400	667@1500	142.2@1500	21.7@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
xx *4045CI551B	4045	116@2200	115.3@2200	25.4@2200	667@1500	141.7@1500	21.7@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
xx *4045CI551C	4045	116@2400	110.3@2400	27@2400	616@1500	130.3@1500	19.9@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
xx *4045CI551D	4045	129@2200	128@2200	28.7@2200	667@1500	142.9@1500	21.9@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
xx *4045CI551E	4045	116@2400	110.3@2400	27@2400	616@1500	130.3@1500	19.9@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
xx*4045CI551F	4045	116@2200	115.3@2200	25.4@2200	667@1500	141.7@1500	21.7@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
xx *4045CI551G	4045	116@2200	114.3@2200	25.6@2200	667@1500	140.8@1500	21.5@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC07A	4045	93@2400	88.1@2400	21.6@2400	494@1500	104.3@1500	15.9@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC07B	4045	104@2400	98.9@2400	24.2@2400	540@1500	116.8@1500	17.9@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09A	4045	129@2400	119.7@2400	29.3@2400	667@1500	139.6@1500	21.4@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09AA	4045	93@2200	94.9@2200	21.3@2200	537@1500	113.4@1500	17.3@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09AB	4045	93@2200	94.9@2200	21.3@2200	537@1500	113.4@1500	17.3@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09B	4045	129@2200	126.3@2200	28.3@2200	667@1500	139.6@1500	21.4@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09C	4045	116@2400	108.6@2400	26.6@2400	616@1500	128.5@1500	19.6@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09D	4045	116@2400	108.6@2400	26.6@2400	616@1500	128.5@1500	19.6@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09E	4045	116@2200	114.3@2200	25.6@2200	667@1500	140.8@1500	21.5@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09F	4045	116@2200	114.3@2200	25.6@2200	667@1500	140.8@1500	21.5@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09G	4045	104@2400	99.1@2400	24.3@2400	552@1500	114.9@1500	17.6@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09H	4045	104@2400	99.1@2400	24.3@2400	552@1500	114.9@1500	17.6@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09I	4045	104@2200	102.7@2200	23@2200	601@1500	124.8@1500	19.1@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09J	4045	104@2200	102.7@2200	23@2200	601@1500	124.8@1500	19.1@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09K	4045	93@2400	90.3@2400	22.1@2400	494@1500	103@1500	15.8@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09L	4045	93@2400	90.3@2400	22.1@2400	494@1500	103@1500	15.8@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09M	4045	93@2200	93.2@2200	20.9@2200	537@1500	111.6@1500	17.1@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09N	4045	93@2200	93.2@2200	20.9@2200	537@1500	111.6@1500	17.1@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09O	4045	129@2400	122.3@2400	29.9@2400	667@1500	142.2@1500	21.7@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09P	4045	129@2200	128@2200	28.7@2200	667@1500	142.9@1500	21.9@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09Q	4045	116@2400	110.3@2400	27@2400	616@1500	130.3@1500	19.9@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09R	4045	116@2400	110.3@2400	27@2400	616@1500	130.3@1500	19.9@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09S	4045	116@2200	115.3@2200	25.4@2200	667@1500	141.7@1500	21.7@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09T	4045	116@2200	115.3@2200	25.4@2200	667@1500	141.7@1500	21.7@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09U	4045	104@2400	100.9@2400	24.7@2400	552@1500	116.4@1500	17.8@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09V	4045	104@2400	100.9@2400	24.7@2400	552@1500	116.4@1500	17.8@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09W	4045	104@2200	103.7@2200	23.3@2200	601@1500	126.5@1500	19.3@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09X	4045	104@2200	103.7@2200	23.3@2200	601@1500	126.5@1500	19.3@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09Y	4045	93@2400	92.3@2400	22.6@2400	494@1500	103.7@1500	15.9@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFC09Z	4045	93@2400	92.3@2400	22.6@2400	494@1500	103.7@1500	15.9@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFG09A	4045	124@1800	143.8@1800	26.4@1800	----------			EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HFG09B	4045	105@1800	121.5@1800	22.3@1800	----------			EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HL503	4045	129@2100	132.4@2100	28.3@2100	730@1575	156.3@1575	25.1@1575	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HP076	4045	104@2200	103.9@2200	23.3@2200	555@1500	119.6@1500	18.3@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HRT09A	4045	117@2200	117.3@2200	26.3@2200	660@1500	138.4@1500	21.2@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HRT09B	4045	106@2200	108.2@2200	24.3@2200	612@1500	127.7@1500	19.5@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HRT09C	4045	91@2200	92.5@2200	20.7@2200	562@1500	120@1500	18.3@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC

1. Engine code	2. Engine Model	3. kW@RPM (SAE Gross)	4. Fuel Rate: mm/stroke@peak kW (for diesel only)	5. Fuel Rate: (kg/hr)@peak kW (for diesels only)	6. Torque (Nm) @RPM (SEA Gross)	7. Fuel Rate: mm/stroke@peak torque	8. Fuel Rate: (kW/hr)@peak torque	9. Emission Control Device Per SAE J1930
4045HT084	4045	129@2200	128.9@2200	28.9@2200	730@1575	156.9@1575	25.2@1575	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HT093	4045	103@2000	110@2000	22.4@2000	555@1500	118.7@1500	18.2@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HT094	4045	129@2200	127.3@2200	28.6@2200	728@1500	158.1@1500	24.2@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HT098	4045	104@2200	103.9@2200	23.3@2200	555@1500	119.6@1500	18.3@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HT099	4045	104@2200	103.9@2200	23.3@2200	555@1500	119.6@1500	18.3@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
6068HPRNT5	6068	236@2400	136.5@2400	50.1@2400	1309@1600	187.4@1600	45.8@1600	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
6068HRT08A	6068	139@2200	92.8@2200	31.2@2200	833@1500	123.5@1500	28.3@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
6068HRT08B	6068	128@2200	84.9@2200	28.9@2200	745@1500	109.4@1500	25.1@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
6068HRT08C	6068	115@2200	76.3@2200	25.7@2200	703@1500	102.8@1500	23.6@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
6068HRT08D	6068	102@2200	68.5@2200	23@2200	640@1500	93@1500	21.3@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
6068HT102	6068	163@2000	112.7@2000	34.5@2000	842@1600	119.7@1600	29.3@1600	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
6068HT117	6068	190@2100	122.3@2100	39.3@2100	1000@1600	140.4@1600	34.3@1600	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
6068HT126	6068	163@2000	112.7@2000	34.5@2000	842@1600	119.7@1600	29.3@1600	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
6068HT127	6068	129@2100	89.7@2100	28.8@2100	768@1600	115.4@1600	28.2@1600	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
6068HTJ63	6068	163@2000	112.7@2000	34.5@2000	842@1600	119.7@1600	29.3@1600	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
Emergency Vehicles								
6068HT123	6068	190@2100	122.3@2100	39.3@2100	1000@1600	140.4@1600	34.3@1600	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
6068HT128	6068	129@2100	89.7@2100	28.8@2100	768@1600	115.4@1600	28.2@1600	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HT091	4045	104@2200	103.9@2200	23.3@2200	555@1500	119.6@1500	18.3@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC
4045HT092	4045	104@2200	103.9@2200	23.3@2200	555@1500	119.6@1500	18.3@1500	EGR ECM PTOX OC SCR-U NH3OC DFI TC CAC

EO#: U-R-004-0592

XX are models added for running change

RC 6/15/2020