California Environmental Protection Agency **Air Resources Board**	DEUTZ AG	**EXECUTIVE ORDER U-R-013-0494-1** 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-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)
2015	FDZXL04.1056	4.038	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Common Rail Direct Injection, Turbocharger, Charge Air Cooler, Electronic Control Module, Exhaust Gas Recirculation, Diesel Oxidation Catalyst, Continuous Trap Oxidizer, Selective Catalytic Reduction-Urea	Crane, Loader, Tractor, Dozer, Pump, Compressor, Other Industrial Equipment

The engine models and codes are attached.

The following are the exhaust certification standards (STD) 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
75 ≤ kW < 130	Tier 4 Final	STD	0.19	0.40	N/A	5.0	0.02	N/A	N/A	N/A
		CERT	0.03	0.35	--	0.2	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.

This Executive Order hereby supersedes Executive Order U-R-013-0494 dated November 5, 2014.

Executed at El Monte, California on this 31 day of December 2015.

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

Deutz AG

Nonroad CI

Engine Model Summary Template

Attachment page 1 of 2

EO# U-R-013-0494-1

Date: 12/10/2015

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: Nm @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
FDZXL04.1056	CFVI115A	TCD4.1L4	154.2@2300	116.3	59.4	609@1600	137	48.7	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
FDZXL04.1056	CFVI115B	TCD4.1L4	154.2@2200	119	58.1	609@1600	137	48.7	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
FDZXL04.1056	CFVI115C	TCD4.1L4	154.2@2100	123	57.3	609@1600	137	48.7	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
FDZXL04.1056	CFVI115D	TCD4.1L4	154.2@2000	125	55.5	609@1600	137	48.7	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
FDZXL04.1056	CFVI105A	TCD4.1L4	140.8@2300	107	54.6	550@1600	121.7	43.2	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
FDZXL04.1056	CFVI105B	TCD4.1L4	140.8@2200	109	53.2	550@1600	121.7	43.2	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
FDZXL04.1056	CFVI105D	TCD4.1L4	140.8@2100	113	52.7	550@1600	121.7	43.2	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
FDZXL04.1056	CFVI105C	TCD4.1L4	140.8@2000	115	51.1	550@1600	121.7	43.2	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
FDZXL04.1056	CFVI95A	TCD4.1L4	127.3@2200	98.5	48.1	530@1600	118.5	42.1	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
FDZXL04.1056	CFVI95B	TCD4.1L4	127.3@2100	101	47.1	530@1600	118.5	42.1	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
FDZXL04.1056	CFVI95C	TCD4.1L4	127.3@2000	104	46.2	530@1600	118.5	42.1	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
FDZXL04.1056	CFVI90	TCD4.1L4	120.6@2300	91	46.5	500@1600	111.2	39.5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
FDZXL04.1056	CFVI90A	TCD4.1L4	120.6@2200	93	45.4	500@1600	111.2	39.5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
FDZXL04.1056	CFVI85L	TCD4.1L4	113.9@2200	90	43.9	500@1600	111.2	39.5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
FDZXL04.1056	CFVI80S	TCD4.1L4	107.2@2400	82	43.7	440@1600	100	35.5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
FDZXL04.1056	CFVI80A	TCD4.1L4	107.2@2300	83	42.4	440@1600	100	35.5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
FDZXL04.1056	CFVI80B	TCD4.1L4	107.2@2200	84.5	41.3	440@1600	100	35.5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
FDZXL04.1056	CFVI80C	TCD4.1L4	107.2@2100	86	40.1	440@1600	100	35.5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
FDZXL04.1056	CFVI80D	TCD4.1L4	107.2@2000	88	39.1	440@1600	100	35.5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
*FDZXL04.1056	CFVT91U	TCD4.1L4	122.0@2100	99.5	46.4	564@1500	126.0	41.9	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
*FDZXL04.1056	CFVT98U	TCD4.1L4	131.4@2100	107.5	50.1	604@1500	136.0	45.3	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
*FDZXL04.1056	CFVT110U	TCD4.1L4	146.8@2100	119.9	55.9	663@1500	151.7	50.5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
*FDZXL04.1056	CFVT120U	TCD4.1L4	160.9@2100	131.6	61.4	699@1500	162.0	53.9	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
*FDZXL04.1056	CFVT121U	TCD4.1L4	160.9@2100	131.6	61.4	699@1500	162.0	53.9	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
*FDZXL04.1056	CFVT109U	TCD4.1L4	147.2@2100	120.0	55.9	639@1500	143.8	47.9	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
*FDZXL04.1056	CFVT111U	TCD4.1L4	146.8@2100	120.0	55.9	663@1500	151.7	50.5	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U
*FDZXL04.1056	CFVT96U	TCD4.1L4	129.8@2100	104.5	48.7	564@1500	126.0	41.9	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U

* new engine codes

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Nonroad CI

EO# U-R-013-0494-1

Engine Model Summary Template

Attachment page 2 of 2

Date: 12/10/2015

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: Nm @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
FDZXL04.1056	CFVT89U	TCD4.1L4	120.0@2100	98.9	46.1	522@1500	104.0	34.6	DDI,TC,CAC,ECM,EGR,DOC,CTOX,SCR-U

* new engine code