California Environmental Protection Agency AIR RESOURCES BOARD	DEUTZ AG	EXECUTIVE ORDER U-R-013-0078 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 engines 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	2DZXL03.1031	3.1	Diesel	5000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection, Smoke Puff LImiter	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
19≤kW<37	Tier 1	STD	N/A	N/A	9.5	5.5	0.80	20	15	50
		CERT	-	-	7.4	2.7	0.24	2	3	3

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 28TH day of February 2002.

Allen Lyons, Chief
New Vehicle/Engine Programs Branch

ED# U-R-013-0078

Attachment 1 of 1

Manufacturer: DEUTZ AG
Engine category: Nonroad CI
EPA Engine Family: 2DZXL03.1031

Engine Model and Part Number Summary Form

Engine code	Engine Model	BHP	BkW	Rated Power Engine Speed	Injection rate at rated power ±6mm³	Peak torque ± 5%	Speed at peak torque ± 200 rpm	Injection rate at peak torque ±4mm³	Fuel injection pump	Fuel injector	Injection timing (±0,5°)	Speed governor, optionally	Smoke limiter, part of speed governor, - 5mm³	Turbocharger
		HP	kW	rpm	mm³/ stroke	Nm	rpm	mm³/ stroke	description	description	°btdc	description	mm³/ stroke - rpm	description
CE36,5	F3M2011	49	36.50	2800	42.0	140	1700	44	04271701KZ	04179469KZ	6	n.a.	n.a.	n.a.
CE34,7	F3M2011	46	34.70	2800	40.0	134	1700	42	04271701KZ	04179469KZ	6	n.a.	n.a.	n.a.
CE34,5	F3M2011	46	34.50	2600	42.0	140	1700	44	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE32,8	F3M2011	44	32.80	2600	40.0	134	1700	42	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE33,5	F3M2011	45	33.50	2500	42.0	140	1700	44	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE31,8	F3M2011	43	31.80	2500	40.0	134	1700	42	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE32,5/1	F3M2011	44	32.50	2400	42.0	134	1700	44	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE31,5	F3M2011	42	31.50	2300	42.0	140	1700	44	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE29,9	F3M2011	40	29.90	2300	40.0	134	1700	42	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE24,2	F2M2011	32	24.20	2800	44.0	93	1700	46	04271701KZ	04179469KZ	6	n.a.	n.a.	n.a.
CE23	F2M2011	31	23.00	2800	42.0	89	1700	44	04271701KZ	04179469KZ	6	n.a.	n.a.	n.a.
CE23/1	F2M2011	31	23.00	2600	44.5	93	1700	46.5	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE21,7	F2M2011	29	21.70	2600	42.0	89	1700	44	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE22,2	F2M2011	30	22.20	2500	44.0	93	1700	46	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE21	F2M2011	28	21.00	2500	42.0	89	1700	44	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE21/1	F2M2011	28	21.00	2300	44.0	93	1700	46	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE20	F2M2011	27	20.00	2300	42.0	89	1700	44	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE35,8	F3L2011	48	35.80	2800	42.0	138	1700	44	04271701KZ	04179469KZ	6	n.a.	n.a.	n.a.
CE34	F3L2011	46	34.00	2800	40.0	131	1700	42	04271701KZ	04179469KZ	6	n.a.	n.a.	n.a.
CE33,9	F3L2011	45	33.90	2600	42.0	138	1700	44	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE32,2	F3L2011	43	32.20	2600	40.0	131	1700	42	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE32,8/1	F3L2011	44	32.80	2500	42.0	138	1700	44	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE31,1	F3L2011	42	31.10	2500	40.0	131	1700	42	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE30,9	F3L2011	41	30.90	2300	42.0	138	1700	44	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE29,3	F3L2011	39	29.30	2300	40.0	131	1700	42	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE23/2	F2L2011	31	23.00	2800	43.0	89	1700	45	04271701KZ	04179469KZ	6	n.a.	n.a.	n.a.
CE21,8	F2L2011	29	21.80	2800	41.0	84	1700	43	04271701KZ	04179469KZ	6	n.a.	n.a.	n.a.
CE22,2/1	F2L2011	29	22.00	2600	43.0	89	1700	45	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE20,9	F2L2011	28	20.90	2600	41.0	84	1700	43	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE21,3	F2L2011	29	21.30	2500	43.0	89	1700	45	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE20,2	F2L2011	27	20.20	2500	41.0	84	1700	43	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE20,1	F2L2011	27	20.10	2300	43.0	89	1700	45	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.
CE19,1	F2L2011	26	19.10	2300	41.0	84	1700	43	04271701KZ	04179469KZ	5	n.a.	n.a.	n.a.