California Environmental Protection Agency AIR RESOURCES BOARD	CNH ENGINE CORPORATION, INC.	EXECUTIVE ORDER U-R-011-0077-1 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-02-003;

IT IS ORDERED AND RESOLVED: That the following compression-ignition engine 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)
2004	4X9XL0505ABD	8.3	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection, Turbocharger, Charge Air Cooler	Crane, Loaders, Tractor, Dozer, Pump, Compressor

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 (%)		
			HC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
130 ≤ KW < 225	Tier 2	STD	N/A	N/A	6.6	3.5	0.20	20	15	50
		FEL	N/A	N/A	6.4	N/A	0.19	N/A	N/A	N/A
		CERT	--	--	5.9	0.8	0.17	13	4	40

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.

This Executive Order hereby cancels and replaces Executive Order U-R-011-0077 dated September 18, 2003.

Executed at El Monte, California on this 19th day of November 2004.

Allen Lyons, Chief
Mobile Source Operations Division

Attachment 1 of 1

Engine Model Summary Form

U-R-001-0077-1

Manufacturer: **CNH Engine Corporation, Inc.**

Engine category: **Nonroad Over 50 Hp**

EPA Engine Family: **4X9XL0505ABD**

Mfr Family Name: **G413**

Process Code: **New Submission**

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
8185;FR90882	6TAA-830	265@2200	143	106.1	922@1500	182	92.1	DDI,TC,CAC
8185;FR90884	6TAA-830	250@2200	132	98.2	853@1500	166	83.9	DDI,TC,CAC
8185;FR90886	6TAA-830	240@2200	130	96.4	824@1500	164	82.9	DDI,TC,CAC
8197;FR90897	6TAA-830	194@2200	106	78.9	697@1400	134	63.5	DDI,TC,CAC
2995;FR90888	6TAA-830	228@2200	124	92.1	820@1400	159	75.3	DDI,TC,CAC
8292;FR90889	6TAA-830	231@2000	132	89.2	865@1400	167	79	DDI,TC,CAC
2996;FR90893	6TAA-830	207@2200	114	84.8	743@1400	146	68.7	DDI,TC,CAC
2996;FR90892	6TAA-830	215@2200	120	89	719@1500	141	71.4	DDI,TC,CAC
8517;FR90894	6TAA-830	210@2000	120	81.3	768@1500	149	75.4	DDI,TC,CAC