California Environmental Protection Agency AIR RESOURCES BOARD	ISUZU MOTORS LIMITED	EXECUTIVE ORDER U-R-006-0146 New Off-Road Compression-Ignition Engines
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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 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)	
2003	3SZXL03.1YNB	3.1	Diesel	5000	
SPECIAL FEATURES & EMISSION CONTROL SYSTEMS		TYPICAL EQUIPMENT APPLICATION			
Indirect Diesel Injection		Dozer			

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for hydrocarbons (HC), oxides of nitrogen (NOx), or non-methane hydrocarbons 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 EMISSION POWER STANDARD			EXHAUST (g/kw-hr)				OPACITY (%)			
CLASS	STANDARD CATEGORY		НС	NOx	NMHC+NOx	со	РМ	ACCEL	LUG	PEAK
19≤ KW < 37	Tier 1	STD	N/A	N/A	9.5	5.5	0.80	20	15	50
		CERT			9.2	1.1	0.31	6	5	13

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 November 2002.

Allen Lyons, Chief Mobile Source Operations Division

Engine Model Summary Form

Manufacturer: Isuzu Motors Limited Engine category: Nonroad CI EPA Engine Famy: 3SZXL03.1YNB Mfr Family Name: NA

New Submission

Process Code:

ATTACHMENT

EO U-R-006-0146

7.Fuel Rate: mm/stroke@peak torque	46.4@1200 43.4@1200
6.Torque @ RPM (SEA Gross)	132.4@1200 125.2@1200
5.Fuel Rate: (tbs/hr) @ peak HP (for diesels only)	18.6@2200 15.7@2200
4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	37.9@2200 32.1@2200
3.BHP@RPM (SAE Gross)	ุ 4-4JG2 (35.ºkൾ6.9@2200 ุ 4-4JG2 39.4@2200
2.Engine Model	A-4JG2 (35. A-4JG2
1.Engine Code 2.Engine Model	4JG2NAAYA-01 4JG2NAAYA-02

8.Fuel Rate: 9.Emission Control (lbs/hr)@peak torque Device Per SAE J1930

EM, IDI EM, IDI

12.4@1200 11.6@1200