California Environmental Protection Agency AIR RESOURCES BOARD	ISUZU MOTORS LIMITED	EXECUTIVE ORDER U-R-006-0150 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 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	3SZXL09.8EXA	9.8	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Direct Diesel Injection, Turbocharger, Charge Air Cooler	Crane, Loader, Generator Set, Excavator

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 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
225≤ KW < 450	Tier 2	STD	N/A	N/A	6.4	3.5	0.20	20	15	50
		CERT	--	--	6.3	1.4	0.19	18	4	49

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 25TH 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 Family: **3SZXL09.8EXA**

Mfr Family Name: **NA**

Process Code: **Running Change** 6/2/03

ATTACHMENT

U-R-006-0150

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
6SD1XABEA-01	AA-6SD1X	333.1@2200	176.0@2200	129.2@2200	991.0@1600	195.0@1600	104.1@1600	EM,TC,CAC,DFI
6SD1XABEA-02	AA-6SD1X	317.0@1750	191.0@1750	991.0@1600	991.0@1600	195.0@1600	104.1@1600	EM,TC,CAC,DFI
6SD1XABEA-03	AA-6SD1X	237.9@2200	126.0@2200	738.0@1600	738.0@1600	135.0@1600	72.1@1600	EM,TC,CAC,DFI
6SD1XABEA-04	AA-6SD1X	227.3@1750	138.0@1750	738.0@1600	738.0@1600	135.0@1600	72.1@1600	EM,TC,CAC,DFI
6SD1XABEA-05	AA-6SD1X	335.4@1950	187.0@1950	991.0@1600	991.0@1600	195.0@1600	104.1@1600	EM,TC,CAC,DFI
6SD1XABEB-01	AA-6SD1X	333.1@2200	176.0@2200	977.0@1700	977.0@1700	193.0@1700	109.4@1700	EM,TC,CAC,DFI
6SD1XABEB-02	AA-6SD1X	317.0@1750	191.0@1750	977.0@1700	977.0@1700	193.0@1700	109.4@1700	EM,TC,CAC,DFI
6SD1XABEB-03	AA-6SD1X	237.9@2200	126.0@2200	738.0@1700	738.0@1700	135.0@1600	76.6@1700	EM,TC,CAC,DFI
6SD1XABEB-04	AA-6SD1X	227.3@1750	138.0@1750	738.0@1700	738.0@1700	135.0@1600	76.6@1700	EM,TC,CAC,DFI
6SD1XABEB-05	AA-6SD1X	335.4@2000	186.0@2000	977.0@1700	977.0@1700	193.0@1700	109.4@1700	EM,TC,CAC,DFI
6SD1XABEC-01	AA-6SD1X	333.1@2200	176.0@2200	991.0@1600	991.0@1600	195.0@1600	104.1@1600	EM,TC,CAC,DFI
6SD1XABEC-02	AA-6SD1X	335.4@2000	186.1@2000	991.0@1600	991.0@1600	195.0@1600	104.1@1600	EM,TC,CAC,DFI
6SD1XABEC-03	AA-6SD1X	335.4@1950	187.0@1950	991.0@1600	991.0@1600	195.0@1600	104.1@1600	EM,TC,CAC,DFI
6SD1XABEC-04	AA-6SD1X	322.5@1800	190.0@1800	991.0@1600	991.0@1600	195.0@1600	104.1@1600	EM,TC,CAC,DFI
6SD1XABED-01	AA-6SD1X	333.1@2200	176.0@2200	977.0@1700	977.0@1700	193.0@1700	109.4@1700	EM,TC,CAC,DFI
6SD1XABED-02	AA-6SD1X	335.4@2000	186.0@2000	977.0@1700	977.0@1700	193.0@1700	109.4@1700	EM,TC,CAC,DFI
6SD1XABED-03	AA-6SD1X	322.5@1800	190.0@1800	977.0@1700	977.0@1700	193.0@1700	109.4@1700	EM,TC,CAC,DFI
6SD1XABED-04	AA-6SD1X	328.9@1900	188.0@1900	977.0@1700	977.0@1700	193.0@1700	109.4@1700	EM,TC,CAC,DFI