California Environmental Protection Agency AIR RESOURCES BOARD	ISUZU MOTORS LIMITED	EXECUTIVE ORDER U-R-006-0350 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)
2011	BSZXL05.2IXA	5.2	Diesel	8,000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Electronic Control Module, Exhaust Gas Recirculation	Crane, Loader, Other 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
75 ≤ kW < 130	Tier 3	STD	N/A	N/A	4.0	5.0	0.30	20	15	50
		CERT	--	--	3.6	1.3	0.07	16	7	24

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 1 day of October 2010.

Annette Hebert, Chief
Mobile Source Operations Division

Engine Model Summary Template

ATTACHMENT

U_R_006_0350
9/27/10

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 @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
BSZXL05.2IXA	4HK1XDIAA-01	AI-4HK1X	172.2@2000	131.1@2000	58.3@2000	499.3@1500	147.5@1500	49.2@1500	ECM, TC, CAC, DFI, EGR
BSZXL05.2IXA	4HK1XDIAA-02	AI-4HK1X	163.6@1800	138.4@1800	55.4@1800	499.3@1500	147.5@1500	49.2@1500	ECM, TC, CAC, DFI, EGR
BSZXL05.2IXA	4HK1XDIAA-03	AI-4HK1X	150.2@2000	118.1@2000	52.5@2000	427.8@1500	127.6@1500	42.6@1500	ECM, TC, CAC, DFI, EGR
BSZXL05.2IXA	4HK1XDIAA-04	AI-4HK1X	154.2@2200	112.9@2200	55.2@2200	442.5@1500	131.7@1500	43.9@1500	ECM, TC, CAC, DFI, EGR
BSZXL05.2IXA	4HK1XDIAB-01	AI-4HK1X	154.2@2200	113.5@2200	55.5@2200	442.5@1500	132.4@1500	44.2@1500	ECM, TC, CAC, DFI, EGR
BSZXL05.2IXA	4HK1XDIAB-02	AI-4HK1X	123.4@2000	101.3@2000	45.1@2000	368.8@1500	116.3@1500	38.8@1500	ECM, TC, CAC, DFI, EGR
BSZXL05.2IXA	4HK1XDIAB-03	AI-4HK1X	172.2@2000	131.8@2000	58.6@2000	479.4@1500	145.0@1500	48.4@1500	ECM, TC, CAC, DFI, EGR