California Environmental Protection Agency Air Resources Board	IHI SHIBAURA MACHINERY CORPORATION	EXECUTIVE ORDER U-R-026-0422-1 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-14-012;

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)
2015	FH3XL2.22TDI	2.22	Diesel	8000

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT APPLICATION
Electronic Direct Injection, Turbocharger, Charge Air Cooler, Oxidation Catalyst, Engine Control Module, Exhaust Gas Recirculation	Tractor, Generator, 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 (%)		
			NMHC	NOx	NMHC+NOx	CO	PM	ACCEL	LUG	PEAK
19≤KW<56	Tier 4 Final	STD	N/A	N/A	4.7	5.0	0.03	N/A	N/A	N/A
		CERT	--	--	4.6	3.7	0.03	--	--	--

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).

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has complied with the more stringent set of standards from the various power categories in conformance with Section 1039.230 (e) of the "California Exhaust Emission Standards and Test Procedures for 2008 and Later Tier 4 Off-Road Compression-Ignition Engines, Part I-C" adopted October 20, 2005 and last amended October 25, 2012.

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 supersedes Executive Order U-R-026-0422 dated December 12, 2014.

Executed at El Monte, California on this 10 day of December 2015.

Annette Hebert, Chief
Emissions Compliance, Automotive Regulations and Science Division

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ATTACHMENT 1 OF 1

Engine Model Summary Template

11/5/2015

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
FH3XL2.22TDI	N4LDI-TA	502800	67.1@2800	43		208@1800	48.3		DDI,ECM,TC,CAC,EGR, OC
FH3XL2.22TDI	N4LDI-TA	502800L	67.1@2800	43		208@1800	48.3		DDI,ECM,TC,CAC,EGR, OC
FH3XL2.22TDI	N4LDI-TA	ER67DI/2800	67.1@2800	43		208@1800	48.3		DDI,ECM,TC,CAC,EGR, OC
FH3XL2.22TDI	C2.2	ER67DI/2800	67.1@2800	43		208@1800	48.3		DDI,ECM,TC,CAC,EGR, OC
FH3XL2.22TDI	N4LDI-TA	492800	65.1@2800	42.3		208@1800	48.3		DDI,ECM,TC,CAC,EGR, OC
FH3XL2.22TDI	N4LDI-TA	452800	60.0@2800	40.9		183@1800	42.8		DDI,ECM,TC,CAC,EGR, OC
FH3XL2.22TDI	N4LDI-TA	492600	65.1@2600	45.9		208@1800	48.3		DDI,ECM,TC,CAC,EGR, OC
FH3XL2.22TDI	N4LDI-TA	452600	60.0@2600	42.5		197@1800	45.6		DDI,ECM,TC,CAC,EGR, OC
FH3XL2.22TDI	N4LDI-TA	412600	55.0@2600	40.4		183@1800	42.8		DDI,ECM,TC,CAC,EGR, OC
FH3XL2.22TDI	N4LDI-TA	452600V1	60.0@2800	42.2		200@1600	45.6		DDI,ECM,TC,CAC,EGR, OC
FH3XL2.22TDI	N4LDI-TA	492600V1	65.1@2600	44.6		200@1600	45.6		DDI,ECM,TC,CAC,EGR, OC
FH3XL2.22TDI	N4LDI-TA	432600	57.7@2600	41.2		192@1600	43.8		DDI,ECM,TC,CAC,EGR, OC
FH3XL2.22TDI	N4LDI-TA	361800C *	48.3@1800	44		193@1800	44.0		DDI,ECM,TC,CAC,EGR, OC
FH3XL2.22TDI	404F-E22TA	ER49DI/1800C *	48.3@1800	44		193@1800	44.0		DDI,ECM,TC,CAC,EGR, OC
FH3XL2.22TDI	C2.2	ER49DI/1800C *	48.3@1800	44		193@1800	44.0		DDI,ECM,TC,CAC,EGR, OC

* new model.