California Environmental Protection Agency	MTU AMERICA INC.	EXECUTIVE ORDER U-R-052-0032 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 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)		
2017	HMDDL57.2XTM	57.2	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, Tractor, Dozer, Pump, Compressor, Mine Haul Truck			

The engine models and codes are attached.

The following are the exhaust certification standards (STD) and certification levels (CERT) for non-methane hydrocarbon (NMHC), 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 EMISSION			EXHAUST (g/kW-hr)				OPACITY (%)			
POWER CLASS			NMHC	NOX	NMHC+NOx	co	РM	ACCEL	LUG	PEAK
ELSE > 560 kW	Tier 4 Final	STD	0.19	3.5	N/A	3.5	0.04	N/A	N/A	N/A
	Her 4 Final	CERT	0.07	3.0		0.2	0.02			

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 May 2017.

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

## Engine Model Summary Template

## ATTACHMENT

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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: 9.Emission Control (lbs/hr)@peak torqueDevice Per SAE J1930
HMDDL57.2XTM	7266	12V4000C65	2500@1800	710	National State of the Antonin State of the Antonin State of the Antonin State of the	10409@1710	743	DFI, TC, CAC, ECM, EGR
HMDDL57.2XTM	7267	12V4000C65	2500@1900	687		9740@1720	696	DFI, TC, CAC, ECM, EGR
HMDDL57.2XTM	7268	12V4000C15	<b>15</b> 42@1800	452		7351@1494	523	DFI, TC, CAC, ECM, EGR
HMDDL57.2XTM	7269	12V4000T95R	2253@1900	620		9035@1400	634	DFI, TC, CAC, ECM, EGR
HMDDL57.2XTM	7303	12V4000T95	2501@1900	682		10030@1400	697	DFI, TC, CAC, ECM, EGR
HMDDL57.2XTM	7302	12V4000T95L	2600@1900	710		10427@1400	725	DFI, TC, CAC, ECM, EGR