California Environmental Protection Agency

⊘ Air Resources Board

GENERAL MOTORS LLC. Executive Order: A-006-2129

New Passenger Cars, Light-Duty Trucks and

Medium-Duty Vehicles

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Pursuant to the authority vested in the Air Resources Board by Health and Safety Code (HSC), Division 26, Part 5, Chapter 2; and pursuant to the authority vested in the undersigned by HSC Sections 39515 and 39516 and Executive Order G-14-012;

IT IS ORDERED AND RESOLVED: The following exhaust and evaporative emission control systems produced by the manufacturer are certified as described below. Production vehicles shall be in all material respects the same as those for which certification is granted.

					TEST GR	OUP IN	FORMAT	ION				
MODE		TEST GROUP		VEHICLE CLASS(ES)			FUEL CATEGORY		FUEL TYPE			
2018	8 JGMXD04.		.3392	MDV4			DEDICATED SINGLE FUEL VEHICLE		GASOLINE			
USEFUL LIFE (miles)				VEI	VEHICLE EMISSION CATEG			ORY INTERIM / INTE		ERMEDIA	RMEDIATE IN-USE STD	
EXI	I/ORVR	R EVAP			FTP		SFTP	SFTP F		SFTP		
1	50000	150000		LEV3	ULEV250	LEV3 ULEV (FULI US06, SC03, FTF TEST CYCLE)		FTP	NMOG+NOX		NMOG+NOX	
SPECIAL FEATURES & EXHAUST EMISSION CONTROL SYSTEMS						OL	OBD STATUS		ENGINE DISPLACEMENT (L)			
1		DFI, 2TWC, 2HO2S(2			TWC		FULL		LL MODELS			
*		*					PART	RTIAL *		4.3		
*		*						. WITH *				
			EV	APORATIVE &	REFUELING	G (EVA	P/ORVR)	FAMILY IN	FORMATION			
EVAP / ORVR FAMILY EVAPORATIV					E STOCATEGODY -		VEHICLE CLASS		SPECIAL FEATURES			
JGMXF0176860				LEV 2				MDV4		HCT		
JGMXR0223841				LEV 2				MDV4		HCT		
					EMISSION (CREDIT	INFORM	ATION				
ALLOWANCE FOR TEST GROUP										OG CREDIT FOR OPTIONAL EX		
BASELINE PZEV AT PZ				PZEV	TZEV	NO	NON-PZEV ZERO-E\		DOB I		TRUCKS	
*				* *			N		N		N	
				NMO	G AND FLEE	TAVE	RAGE IN	FORMATIC	N			
NMOG RAF	CH4 RAF			HCHO/NMHC RATIO			500 GVW)	NMOG+NOX FLEET STE MDV (8501-10000 GVWF (g/mi)		NMOG+NOX FLEET STD MDV (10,001-14,000 GVWR) (g/mi)		
*	*	* 1.10		*		*		0.278			0.451	

See the Attachment for Vehicle Models, Evaporative Family, Engine Displacement, Emission Control Systems, Phase-In Standards, OBD Compliance, Emission Standards and Certification Levels, and Abbreviations.

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BE IT FURTHER RESOLVED:

The exhaust and evaporative emission standards and the certification emission levels for the listed vehicles are as listed on the Attachment. Compliance with the 50° Fahrenheit testing requirement may have been met based on the manufacturer's submitted compliance plan in lieu of testing. Any debit in the manufacturer's NMOG+NOx and greenhouse gas Fleet Average (PC or LDT or MDPV) or "Vehicle Equivalent Credit" (MDV) compliance plan shall be equalized as required.

BE IT FURTHER RESOLVED:

For the listed vehicle models, the manufacturer has attested to compliance with Title 13, California Code of Regulations, (13 CCR) Sections 1965 [emission control labels], 1968.2 [on-board diagnostic, full or partial compliance], 2035 et seq. [emission control warranty], 2235 [fuel tank fill pipes and openings] (gasoline and alcohol fueled vehicles only), and "High-Altitude Requirements" and "Inspection and Maintenance Emission Standards" (California 2015 and Subsequent Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2017 and Subsequent Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for PC, LDT and MDV).

Vehicles certified under this Executive Order shall conform to all applicable California emission regulations.

The Bureau of Automotive Repair will be notified by copy of this Executive Order. 3—Haday of October 2017.

Executed at El Monte, California on this ____

Emissions Compliance, Automotive Regulations and Science Division

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ATTACHMENT

EXHAUST AND EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS EXHAUST EMISSION STANDARDS AND CERTIFICATION LEVELS (FTP, HWFET, 50°F, 20°F) CH4: methane; NMOG: non-CH4 organic gas; HC: hydrocarbon; NMHC: non-CH4 HC; CO: carbon monoxide; NOx; oxides of nitrogen; HCHO; formaldehyde; PM; particulate matter; RAF; reactivity adjustment factor; 2DHS/3DHS [g HC/test]: 2/3 days diurnal+hot-soak; RL [g HC/mi]: running loss; ORVR [g HC/gallon dispensed]: on-board refueling vapor recovery; g: gram; mg: milligram; mi: mile; K: 1000 miles; F: degrees Fahrenheit; FTP: federal test procedure; SFTP: supplemental FTP **FUEL TYPE** NMOG+NOx CO NOx HCHO PM (g/mi) (g/mi) (mg/mi) (g/mi) (g/mi) CERT STD CERT STD CERT STD CERT STD CERT STD * * FTP@50K GASOLINE-0.098 0.250 0.7 6.4 6 0.06 FTP@UL TIER3 E10 GASOLINE-0.191 0.500 1.0 6.4 32 50°F @4K TIER3 E10 NMOG+NOx (g/mi) CO (g/mi) **FUEL TYPE** CERT STD CERT STD HWFET @ 50K GASOLINE-TIER3 E10 0.017 0.250 HWFET @ UL market of the 20°F @ 50K SFTP EXHAUST EMISSION STANDARDS AND CERTIFICATION LEVELS **US06** SC03 COMPOSITE **FUEL TYPE** NMOG+NOx CO PM NMOG+NOx CO NMOG+NOx CO PM (g/mi) (g/mi) (mg/mi) (g/mi) (g/mi) (g/mi) (g/mi) (mg/mi) CERT @ 4K STD * * CERT * * * * * 0.055 7.2 * GASOLINE-STD 0.800 22.0 @UL TIER3 E10 BIN WHOLE VEHICLE EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS WHOLE VEHICLE EVAPORATIVE TESTING **EVAPORATIVE** RL (g/mi) @ UL **FUEL TYPE** 3DHS (g/test) @ UL 2DHS (g/test) @ UL FAMILY CERT STD FEL CERT STD FEL CERT STD GASOLINE-JGMXF0176860 0.41 1.00 0.30 1.25 0.00 0.05 LEV3 E10 0.00 E10-EPA 1.00 0.45 1.25 0.05 JGMXR0223841 0.65 ORVR / FUEL ONLY / CANISTER BLEED EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS

FUEL ONLY EVAP & CANISTER BLEED ORVR (g/gallon) @ UL 3DHS RIG TEST 2DHS RIG TEST **BLEED CANISTER EVAPORATIVE** FAMILY **FUEL TYPE** (g/test) @ UL (g/test) @ UL TEST (g/test) @ 4K **FUEL TYPE** CERT STD CERT STD CERT STD CERT STD GASOLINE JGMXR0223841 TIER 2 0.03 0.20 UNLEADED

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': not applicable; #: pounds; UL: useful life; PC: passenger car; LDT: light-duty truck; LDT1: LDT<6000#GVWR,0-3750#LVW; LDT2: LDT<6000#GVWR,3751-5750#LVW; LDT3: LDT 6001-8500#GVWR,3751-5750#ALVW; LDT4: LDT 6001-8500#GVWR,5751-8500#ALVW; MDV: medium-duty vehicle; MDV4: MDV 8501-10000#GVWR; MDV5: MDV 10001-14000#GVWR; MDPV: mediumduty passenger vehicle; HDV: heavy-duty vehicle; ECS: emission control system; CERT: certification; STD: standard; FEL: family emission limit; GVWR: gross vehicle weight rating; LVW: loaded vehicle weight; ALVW: adjusted LVW; LEV: low emission vehicle; ULEV: ultra LEV; SULEV: super ULEV; ZEV: zero-emission vehicle; PZEV: partial ZEV; AT PZEV: advanced technology PZEV; TZEV: transitional ZEV; TWC/OC: 3-way/oxidizing catalyst; ADSTWC: adsorbing TWC; HAC: HC adsorbing catalyst; WU: warm-up catalyst; NAC: NOx adsorption catalyst; SCR-U or SCRC/SCR-N or SCRC-NH3: selective catalytic reduction-urea/ammonia; NH3OC: ammonia oxidation catalyst; CTOX/PTOX: continuous/periodic trap oxidizer; DPF: diesel particulate filter (active); GPF: PM filter for spark-ignited engine; HO2S/O2S: heated/oxygen sensor; WR-HO2S or AFS: wide range/linear/heated air-fuel ratio sensor; NOXS: NOx sensor; PMS: PM sensor; RDQS: reductant quality sensor; NH3S: ammonia sensor; EGR: exhaust gas recirculation; EGRC: EGR cooler; AIR/AIRE: secondary air injection (belt driven)/(electric driven); PAIR: pulsed AIR; SFI/MFI: sequential/multiport fuel injection; DFI/IFI: direct/indirect fuel injection; TC/SC: turbo/super charger; CAC: charge air cooler; FFH: fuel fired heater; F/P/\$: full/partial/partial with fines on-board diagnostic; DOR: direct ozone reducing; HCT: hydrocarbon trap; BCAN: bleed carbon canister; prefix 2: parallel; (2) suffix: series; CNG/LNG: compressed/liquefied natural gas; LPG: liquefied petroleum gas; E85: "85%" ethanol ("15%"gasoline) fuel; E10: "10%" ethanol ("90%"gasoline) fuel; A: automatic (with lockup); M: manual transmission; SA: semiautomatic transmission; CV; continuously variable transmission; SCV; selectable continuously variable transmission; AM; automated manual transmission: AMS: automated manual-selectable transmission: OT: other transmission

2018 MODEL YEAR: VEHICLE MODELS INFORMATION **ENGINE EVAPORATIVE** VEH CLASS TRANS TYPE OBD MAKE MODEL **PZEV TYPE ECS FAMILY** (L) G2500 EXPRESS CHEVROLET MDV4 4.3 A8 JGMXR0223841 1 F 2WD CARGO **G2500 EXPRESS** CHEVROLET MDV4 4.3 A8 JGMXR0223841 1 F 2WD PASS G3500 EXPRESS CHEVROLET MDV4 4.3 A8 JGMXR0223841 1 F 2WD CARGO G3500 EXPRESS JGMXF0176860 1 F CHEVROLET MDV4 4.3 A8 2WD CUTAWAY CH G3500 EXPRESS CHEVROLET MDV4 4.3 A8 JGMXR0223841 1 F 2WD PASS G2500 SAVANA JGMXR0223841 F GMC MDV4 4.3 A8 1 2WD CARGO G2500 SAVANA GMC MDV4 4.3 A8 JGMXR0223841 1 F 2WD PASS G3500 SAVANA MDV4 JGMXR0223841 1 F GMC 4.3 A8 2WD CARGO G3500 SAVANA MDV4 F GMC 4.3 A8 JGMXF0176860 1 2WD CUTAWAY CH G3500 SAVANA MDV4 GMC A8 JGMXR0223841 1 F 4.3 2WD PASS