## California Environmental Protection Agency

**OP Air Resources Board** 

GENERAL MOTORS LLC. Executive Order: A-006-2097

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	FORMATI	ON					
MODE		EST GF	ROUP	VEHIC	CLE CLASS(I	ES)	F	FUEL CATEGORY		FUEL TYPE			
2018	18 JGMXT05.3384 LDT			T3 T.DT4			CATED S	SINGLE FUEL	G	ASOLINE			
ī	USEFUL	LIFE (	miles)	VE	HICLE EMIS	SION C	ATEGORY		INTERIM / INT	ERMEDIA	TE IN-USE STD		
EXH	/ORVŔ		EVAP		FTP		SFTP		FTP		SFTP		
15	0000		150000	LEV3	ULEV125	LEV	3 COMPOS	SITE	PM		PM		
SPE	CIAL FE	ATUR		AUST EMISS	ON CONTRO	OL	(	OBD STA	ATUS	ENGINE	DISPLACEMENT (L)		
1		DF:	I, 2TWC,	2HO2S(2),	TWC		FUL	L	*				
*	10.00			*		PARTIAL ALL MODELS					5.3		
*				*		7.	PARTIAL FINE		*				
			EV	APORATIVE 8	REFUELING	G (EVA	P/ORVR) F	AMILY	NFORMATION				
EVAP / ORVR FAMILY EVAPORATIVE STD CATEGO				GORY	EVAP EMISSION STD VEHICLE CLASS			SPECIA	L FEATURES				
J	GMXR01	6150A		LEV	3 OPTION2		LDT3				HCT		
J	JGMXR02	1250B		LEV 3 OPT	ION2 WITH	FEL	LDT4				HCT		
J	GMXR02	23840			LEV 2	EV 2			4	<u> </u>	нст		
					EMISSION (	CREDIT	INFORMA	ATION					
	A	LLOW	ANCE FO	R TEST GRO	JP .		IMOG CRE			EDIT FOR	OPTIONAL EXH		
BASE	ELINE P	ZEV	AT	PZEV	TZEV	NO	N-PZEV Z	ERO-EV	AP DO	OR	TRUCKS		
	* * *				*		N		1	1	N		
				NMO	G AND FLEE	TAVE	RAGE INF	ORMATI	ON				
NMOG RAF	CH4 RAF	NMO	FTP G/NMHC ATIO	HCHO/NMHO RATIO									
*	*	1	1.10	*		0.079			0.092		*		

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).

#### BE IT FURTHER RESOLVED:

For evaporative families JGMXR016150A and JGMXR021250B, the manufacturer has attested to compliance with the 0.02 inch effective leak diameter standard in 13 CCR Section 1976(b)(1)(G)6 ["Effective Leak Diameter Standard And Procedure"].

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.

Executed at El Monte, California on this

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

# **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** 

731											
		NMOG+NOx (g/mi)		CO (g/mi)		NOx (g/mi)		HCHO (mg/mi)		PM (g/mi)	
		CERT	STD	CERT	STD	CERT	STD	CERT	STD	CERT	STD
FTP@50K	. *	*-	*	*	*	*	*	*	*	*	*
FTP@UL	GASOLINE- TIER3 E10	0.031	0.125	0.5	2.1	*	*	*	4	0.002	0.003
50°F @4K	*	*	*	*	* .	*	*	*	*		

	FUEL TVDE	NMOG+NOx (g/mi)		CO (g/mi)		
	FUEL TYPE	CERT	STD	CERT	STD	
HWFET @ 50K	. *	*	*			
HWFET @ UL	GASOLINE-TIER3 E10	0.004	0.125			
20°F @ 50K	COLD CO E10 REGULAR GASOLINE (TIER3)			. 1.5	12.5	

### SFTP EXHAUST EMISSION STANDARDS AND CERTIFICATION LEVELS

		M NET		US06		SC03		CON	POSITE	
	FUEL TYPE		NMOG+NOx (g/mi)	CO (g/mi)	PM (mg/mi)	NMOG+NOx (g/mi)	CO (g/mi)	NMOG+NOx (g/mi)	CO (g/mi)	PM (mg/mi)
@ 4K	*	CERT	*	*		*	*			
		STD	*	*		*	*			
		CERT	*	*	1	*	*	0.027	0.4	*
@ UL	GASOLINE- TIER3 E10	STD	* .	*	10	*	*	0.097	4.2	*
		BIN					Table 1	0.120		

### WHOLE VEHICLE EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS

			WHOLE						
EVAPORATIVE FAMILY	FUEL TYPE	3DHS (g/test) @ UL			2DI	HS (g/test) @	RL (g/mi) @ UL		
.,,,,,,		CERT	STD	FEL	CERT	STD	FEL	CERT	STD
JGMXR016150A	GASOLINE- TIER3 E10	0.383	0.500	*	0.376	0.500	*	0.00	0.05
JGMXR021250B	GASOLINE- TIER3 E10	0.470	0.500	0.525	0.354	0.500	0.525	0.00	0.05
JGMXR0223840	GASOLINE - TIER 2 UNLEADED	0.71	0.90	*	0.65	1.15	*	0.00	0.05

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ORVR / FU	EL ONLY / CA	NISTER	BLEED	EVAPORATIVE	EMISSION	STANDA	RDS AND	CERTIFIC	ATION LEV	ELS			
					FUEL ONLY EVAP & CANISTER BLEED								
EVAPORATIVE FAMILY	ORVR (g/gallon) @ UL			FUEL TYPE	3DHS RIG TEST (g/test) @ UL		2DHS RIG TEST (g/test) @ UL		BLEED CANISTER TEST (g/test) @ 4K				
	FUEL TYPE	CERT	STD		CERT	STD	CERT	STD	CERT	STD			
JGMXR016150A	E10-EPA	0.01	0.20	GASOLINE- TIER3 E10	*	*	*	*	0.007	0.020			
JGMXR021250B	E10-EPA	0.03	0.20	GASOLINE- TIER3 E10	*	*	*	*	0.010	0.020			
JGMXR0223840	GASOLINE - TIER 2	0.03	0.20	*	*	*	*	*	*	*			

: 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 venicle; 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: semi-automatic transmission; CV: continuously variable transmission; SCV: selectable continuously variable transmission; AM: automated manual transmission; AMS: automated manual-selectable transmission; OT: other transmission

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MAKE	MODEL	VEH CLASS	ENGINE (L)	TRANS TYPE	EVAPORATIVE FAMILY	EXH ECS	OBD	PZEV TYPE
CHEVROLET	C15 SILVERADO 2WD	LDT3	5.3	A6,A8	JGMXR016150A	1	P	*
CHEVROLET	C15 SILVERADO 2WD	LDT4	5.3	A6	JGMXR021250B	1	P	*
CHEVROLET	C15 SILVERADO 2WD CAB CHASSIS	LDT4	5.3	A6	JGMXR0223840	1	P	*
CHEVROLET	C1500 SUBURBAN 2WD	LDT4	5.3	A6	JGMXR021250B	1	P	*
CHEVROLET	C1500 TAHOE 2WD	LDT4	5.3	A6	JGMXR016150A	1	P	*
CHEVROLET	K15 SILVERADO 4WD	LDT4	5.3	A6,A8	JGMXR016150A	1	P	*
CHEVROLET	K15 SILVERADO 4WD	LDT4	5.3	A6	JGMXR021250B	1	P	*
CHEVROLET	K15 SILVERADO 4WD CAB CHASSIS	LDT4	5.3	A6	JGMXR0223840	1	P	*
CHEVROLET	K1500 SUBURBAN 4WD	LDT4	5.3	A6	JGMXR021250B	1	P	*
CHEVROLET	K1500 TAHOE 4WD	LDT4	5.3	A6	JGMXR016150A	1	P	*
GMC	C15 SIERRA 2WD	LDT3	5.3	A6,A8	JGMXR016150A	1	P	*
GMC	C15 SIERRA 2WD	LDT4	5.3	A6	JGMXR021250B	1	P	*
GMC	C15 SIERRA 2WD CAB CHASSIS	LDT4	5.3	A6	JGMXR0223840	1	P	*
GMC	C1500 YUKON 2WD	LDT4	5.3	A6	JGMXR016150A	1	P	*
GMC	C1500 YUKON XL 2WD	LDT4	5.3	A6	JGMXR021250B	1	P	*
GMC	K15 SIERRA 4WD	LDT4	5.3	A6,A8	JGMXR016150A	1	P	*
GMC	K15 SIERRA 4WD	LDT4	5.3	A6	JGMXR021250B	1	P	*
GMC	K15 SIERRA 4WD CAB CHASSIS	LDT4	5.3	A6	JGMXR0223840	1	P	*
GMC	K1500 YUKON 4WD	LDT4	5.3	A6	JGMXR016150A	1	P	*
GMC	K1500 YUKON XL	LDT4	5.3	A6	JGMXR021250B	1	P	*