California Environmental Protection Agency

OB Air Resources Board

VOLKSWAGEN GROUP OF AMERICA, INC. Executive Order: A-413-0065

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 GRO	UP IN	FORMAT	TION					
MODE		EST G	ROUP	VEH	ICLE CLASS(ES	5)	`\	FUEL C	ATEG	ORY	FU	IEL TYPE	
2017	H	/GAV0	5.2NLE		PC			ICATED VEH		LE FUEL	G	ASOLINE	
	USEFU	LLIFE	(miles)	V	EHICLE EMISSI	ON C	ATEGOR	RY	INT	ERIM / INTE	RMEDIA	TE IN-USE STD	
EXH	I/ORVR		EVAP		FTP		SFTP			FTP		SFTP	
12	20000		150000	I	EV2 LEV		EV 2 SF STANDAR		*			*	
SPE	CIAL FI	EATUR		AUST EMIS	SION CONTROL	- 1		OBD ST	ATUS		ENGINE	DISPLACEMENT (L)	
1 2	WU-TWO	, 2TW	C, 2WR-H	102S, 2H02	S, DFI+SFI, A	AIR	FU	LL	ALL	MODELS			
*				*			PAR	ΓIAL		*	5.2		
*				*			PARTIA FIN		.,ivel	*			
			EV	APORATIVE	& REFUELING	(EVA	P/ORVR)	FAMILY	INFO	RMATION			
EVA	P/ORV	R FAN	MILY	EVAPORAT	IVE STD CATEG	ORY	1	AP EMIS			SPECIA	L FEATURES	
1	HVGAR0:	155NA	L		LEV 2			P	С			. *	
					EMISSION CR	EDIT	INFORM	IATION	7777				
	A	LLOW	ANCE FO	R TEST GRO	DUP			EDIT FO		NMOG CRE		OPTIONAL EXH.	
BASI	ELINE P	ZEV	АТ	PZEV	TZEV	NO	N-PZEV	ZERO-EV	/AP	DOI	2	TRUCKS	
	*			*	*		1	Ŋ		N		N .	
				NM	OG AND FLEET	AVE	RAGE IN	FORMAT	ION				
NMOG RAF	CH4 RAF	NMC	FTP G/NMHC ATIO	HCHO/NMH RATIO	PC+LD1 (0			LDT (3751 I	FLEET STE LVW-8500 DPV (g/mi)	MDV	NOX FLEET STD (10001-14000 VWR) (g/mi)	
*	*		1.04	0.030	0.	086			0.1	.01		*	

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.

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

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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.

Executed at El Monte, California on this

Annette Hebert, Chief

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.	LIMEET FORE CORE
EXHAUST EMISSION STANDARDS AND CERTIFICATION LEVELS (FTP.	, MANLE 1, 20 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

1. 27 - 1 1 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.											
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		NM (g/i	OG mi)	C (g/i		, NO	Ox mi)	HC (mg	HO /mi)	1	M mi)
******		CERT	STD	CERT	STD	CERT	STD	CERT	STD	CERT	STD
FTP@50K	GASOLINE - TIER 2 UNLEADED	0.0325	0.075	0.60	3.4	0.032	0.05	0.7	15	*	*
FTP@UL	GASOLINE - TIER 2 UNLEADED	0.0451	0.090	0.99	4.2	0.037	0.07	0.7	18	0.000	0.01
50°F @4K	GASOLINE - TIER 2 UNLEADED	0.0879	0.150	0.64	3.4	0.040	0.05	2.5	30	Post Marcheste	er am er Man

	FUEL TYPE	NOx ((g/mi)	CO (g/mi)		
And the second s	FUEL TYPE	CERT	STD	CERT	STD	
HWFET @ 50K	GASOLINE - TIER 2 UNLEADED	0.030	0.07			
HWFET @ UL	GASOLINE - TIER 2 UNLEADED	0.035	0.09			
20°F @ 50K	GASOLINE-COLD CO HIGH OCTANE			3.30	10.0	

SFTP EXHAUST EMISSION STANDARDS AND CERTIFICATION LEVELS

10022				US06	****	SC0	3	CON	POSITE	
	FUEL TYPE		NMHC+NOx (g/mi)	CO (g/mi)	PM (mg/mi)	NMHC+NOx (g/mi)	CO (g/mi)	NMOG+NOx (g/mi)	CO (g/mi)	PM (mg/mi)
@ 4K	GASOLINE - TIER 2 UNLEADED	CERT	0.041	0.07		0.028	0.01			
0		STD	0.14	8.0		0.20	2.7			
		CERT	*	*	*	*	*	0.071	*	*
@ UL	GASOLINE - TIER 2 UNLEADED	STD	*	*	*	*	*	0.103	*	*
		BIN		Singuis.				0.160		Name:

WHOLE VEHICLE EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS

EVAPORATIVE FAMILY			WHOLE	VEHICLE	EVAPORA	TIVE TESTIN	NG .		
EVAPORATIVE FAMILY	FUEL TYPE	3DH	S (g/test) (@ UL	2DI	HS (g/test) @	D UL	RL (g/m	i) @ UL
		CERT	STD	FEL	CERT	STD	FEL	CERT	STD
HVGAR0155NAL	GASOLINE - CA PHASE 2	0.422	0.50	*	0.290	0.65	*	0.000	0.05

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OKVK7FO	EL ONET 7 OA	MOTEN	DELED	EVAPORATIVE			P & CANIS			
EVAPORATIVE FAMILY	ORVR (g/g	gallon) @	UL	FUEL TYPE	3DHS Ri (g/test		2DHS R (g/test		BLEED CANISTER TEST (g/test) @ 4K	
	FUEL TYPE	CERT	STD		CERT	STD	CERT	STD	CERT	STD
HVGAR0155NAL	GASOLINE - TIER 2 UNLEADED	0.016	0.20	0 11 1	*	*	*	*	*	*

: not applicable; #: pounds; UL: useful life; PC: passenger car; LDT: light-duty truck; LDT1: LDT<6000#GVWR,0-3750#LVW; LDT2: _DT<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; 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

2017 MODEL YEAR: VEHICLE MODELS INFORMATION

MAKE	MODEL	VEH CLASS	ENGINE (L)	TRANS TYPE	EVAPORATIVE FAMILY	EXH ECS	OBD	PZEV TYPE
AUDI	R8	PC	5.2	AM7	HVGAR0155NAL	1	F	*
AUDI	R8 SPYDER	PC	5.2	AM7	HVGAR0155NAL	1	F	*
AUDI	R8 V10 PLUS	PC	5.2	AM7	HVGAR0155NAL	1	F	*
LAMBORGHINI	HURACAN	PC	5.2	AM7	HVGAR0155NAL	1	F	*
LAMBORGHINI	HURACAN 2WD	PC	5.2	AM7	HVGAR0155NAL	1	F	*
LAMBORGHINI	HURACAN SPYDER	PC	5.2	AM7	HVGAR0155NAL	1	F	*
LAMBORGHINI	HURACAN SPYDER 2WD	PC	5.2	AM7	HVGAR0155NAL	1	F	*