HYUNDAI MOTOR COMPANY

EXECUTIVE ORDER A-254-0287-1

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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.

granted.										
			TEST	GROUP INFORMA	TION					
MODEL YEAR	TEST GRO	UP VEHIC	CLE CLASS(ES)	FUEL CATEGORY			FUEL TYPE			
2015	FHYXV02.4	1JE		DEDICATED SINGLE FUEL VEHICLE			ASOLINE			
	USEFUL LIF	E (miles)	VEHICLE E	MISSION CATEG	ORY	INTERIN	/INTERME	EDIATE IN-USE STD		
EXH/O	RVR	EVAP	FTP	S	FTP	FTP		SFTP		
150,0	000	150,000	LEV3 ULEV70	LEV3 C	OMPOSITE	NMOG+I	XON	NMOG+NOx		
SPECIAL F	EATURES &	EXHAUST EMISSION	CONTROL SYSTEMS		OBD STATUS		ENGIN	NE DISPLACEMENT (L)		
1	WU-TW	C, TWC, WR-HO2S, H	HO2S, DFI	FULL	ALL MOI	DELS				
		* .		PARTIAL	*	144	2.4			
		•		PARTIAL WITH FINES	or broken.					
		E	VAPORATIVE & REFUEL	ING (EVAP/ORVE) FAMILY INFOR	MATION				
	EVAP / OF	RVR FAMILY	EVAPOR	RATIVE STD CAT	GORY	EVAP E	MISSION S	TD VEHICLE CLASS		
	FHYXR	0140AHV		LEV3 OPTION 1			PC			
		*		*			*			
		+		+		*				
			EMISSIO	N CREDIT INFOR	MATION					
	Al	LLOWANCE FOR TEST	GROUP		CREDIT FOR	NMOC CREDIT	FOR DOD	OPTIONAL EXH. STD FOR		
BASELINE PZEV AT PZEV TZEV				NON-PZEV ZERO-EVAP		NMOG CREDIT FOR DOR		WORK TRUCKS		
	*	<u> </u>	*	A 12.0 A 2.0 A 1	· N	N	,	N		
			NMOG AND FL	EET AVERAGE I	NFORMATION					
NMOG RAF	CH4 RAF	FTP NMOG/NMHC RATIO	HCHO/NMHC RATIO		G+NOX FLEET T (0-3750 LVW) (9		mi) NMOG+NOX FLEET STD LDT (3751 8500 GVWR) + MDPV (g/mi)			
*	*	1.10			0.100		0.119			

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 or NMOG+NOx, as applicable, 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:

The test group listed in this Executive Order is certified conditionally on the manufacturer providing data to demonstrate compliance with California's greenhouse gas fleet average emission standard (CA GHG Standard) specified in Title 13, California Code of Regulations, (13 CCR) Section 1961.1 and the incorporated California 2001 through 2014 Model Criteria Pollutant Exhaust Emission Standards and Test Procedures and 2009 through 2016 Model Greenhouse Gas Exhaust Emission Standards and Test Procedures for Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles,

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amended December 6, 2012 (CA Test Procedures). The manufacturer has elected, under 13 CCR Section 1961.1(a)(1)(A)(ii) and under Section E.2.5.1(ii) of the CA Test Procedures, to demonstrate compliance with the CA GHG Standard by demonstrating compliance with the National greenhouse gas program (National GHG Program). Therefore, the test group listed in this Executive Order is certified conditionally further on the manufacturer complying with the requirements specified in said provisions in 13 CCR, and Sections E.2.5.1(ii) and H.4.5(b) and H.4.5(c) of the CA Test Procedures (among other things, concerning data and information submission, timing, and format as specified by the Executive Officer). Failure to comply with the certification requirements to demonstrate compliance with CA GHG Standard by demonstrating compliance with the National GHG Program under said provisions in 13 CCR and CA Test Procedures may be cause for the Executive Officer to revoke the Executive Order. Vehicles in the revoked Executive Order shall be deemed uncertified and subject to penalties authorized under California law. Notwithstanding the requirement herein, a mawnufacturer that becomes, after MY2009, a large-volume manufacturer, as defined in 13 CCR Section 1900, is not required to comply with the CA GHG Standard until the beginning of the fourth model-year from becoming a large-volume manufacturer. Additionally, notwithstanding the requirement herein, a small-volume manufacturer, independent low-volume manufacturer, or intermediate volume-manufacturer, as defined in 13 CCR

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. This Executive Order hereby supersedes Executive Order A-254-0287 dated May 14, 2014.

Section 1900, is not required to comply with CA GHG Standard during model-years (MY) 2012 through 2015.

Executed at El Monte, California on this 50 day of October 2014.

Annette Hebert, Chief

Emissions Compliance, Automotive Regulations and Science Division

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ATTACHMENT

EXHAUST AND EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS

(For bi-, dual- or flexible-fueled vehicles, the STD and CERT in parentheses are those applicable to testing on gasoline test fuel.)

EXHAUST EMISSION STANDARDS AND CERTIFICATION LEVELS (FTP, HWFET, 50 °F, 20 °F)

	FUEL TYPE	CH4=methane; NMOG=non-CH4 organic gas; HC=hydrocarbon; NMHC=non-CH4 HC; CO=carbon monoxide; NOx=oxides of nitrogen; HCH0=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 refuelling vapor recovery; g=gram; mg=milligram; ml=mile; K=1000 miles; F=degrees Fahrenheit; FTP=federal test procedure; SFTP=supplemental FTP NMOG+NOx (g/mi) CO (g/mi) HCHO (mg/mi) PM (g/mi) HWY NMOG+NOx (g/mi)										
5 4 4 E 11 4		· CERT	STD	CERT	STD	CERT	STD	CERT	STD	CERT	STD	
FTP @ 50K	*	*	*	*	*		*	*	*	*	*	
FTP @ UL	GASOLINE-LEV3 E10	0.024	0.070	0.4	1.7	*	4		0.01	0.015	0.070	
20°F @ 50K	GASOLINE-COLD CO LOW OCTANE	*	*	1.7	10.0	*	*	*	*	*	*	
50°F @ 4K	GASOLINE-LEV3 E10	0.035	0.140	0.8	1.7	*	16		*	*	*	

SFTP EXHAUST EMISSION STANDARDS AND CERTIFICATION LEVELS

		US06 / UC (LA92)					SC03				COMPOSITE						
	FUEL TYPE	NMOG (g/i		CO (g/mi)	PM (m	ng/mi)	NMOG (g/	+NOx mi)	co (g/mi)	NMC	G+NOx ((g/mi) C	CO (CO (g/mi)	
		CERT	STD	CERT	STD	CERT	STD	CERT	STD	CERT	STD	CERT	STD	BIN	CERT	STD	
@ UL	GASOLINE-LEV3 E10	*	*		*	•	*	*	*	*	*	0.026	0.140	0.080	1.2	4.2	

WHOLE VEHICLE EVAPORATIVE/ORVR EMISSION STANDARDS AND CERTIFICATION LEVELS

EVADORATIVE		WHOLE VEHICLE EVAPORATIVE TESTING							IG LOSS	ON-BOARD REFUELING	
EVAPORATIVE FAMILY	FUEL TYPE	3-DAYS DIURNAL + HOT SOAK (g/test) @ UL			2-DAYS DIURNAL + HOT SOAK (g/test) @ UL			(g/mi) @ UL		(g/gallon) @ UL	
		CERT	STD	FEL	CERT	STD	FEL	CERT	STD	CERT	STD
FHYXR0140AHV	GASOLINE-LEV3 E10	0.258	0.350	*	0.287	0.350	*	0.02	0.05	0.01	0.20

FUEL ONLY & CANISTER BLEED EVAPORATIVE EMISSION STANDARDS AND CERTIFICATION LEVELS

EVAPORATIVE FAMILY	FUEL TYPE		FUEL ONLY EVAP				
		3-DAYS DIURNA (g/test)		2-DAYS DIURNA (g/test)		CANISTER BLEED (g/test)	
		CERT	STD	CERT	STD	CERT	STD
FHYXR0140AHV	GASOLINE-LEV3 E10	0.04	0.0	0.04	0.0	*	¥
*	*	*	*	*	*	*	*

*=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#LVW; LDT3=LDT 6001-8500#GVWR,3751-5750#LVW; LDT4=LDT 6001-8500#GVWR,5751-8500#ALVW; MDV=medium-duty vehicle; MDV4=MDV 8501-10000#GVWR; MDV5=MDV 10001-14000#GVWR; MDPV=medium-duty passenger 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 transmission; AM=automated manual transmission; OT=other transmission

2015 MODEL YEAR: VEHICLE MODELS INFORMATION

MAKE	MODEL	VEH	ENGINE (L)	TRANS TYPE	EVAPORATIVE FAMILY	ECS	OBD	PZEV TYPE
HYUNDAI	SONATA	PC	2.4	L6	FHYXR0140AHV	1	FULL	*
HYUNDAI	SONATA SPORT	PC	2.4	L6	FHYXR0140AHV	1	FULL	*
HYUNDAI	SONATA LIMITED	PC	2.4	L6	FHYXR0140AHV	1	FULL	
HYUNDAI	SONATA SPORT TECH	PC	2.4	L6	FHYXR0140AHV	1	FULL	*

California Environmental Protection Agency

@ Air Resources Board

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HYUNDAI SONATA LIMITED TECH PC 2.4 L6 FHYXR0140AHV 1 FULL . .