CALIFORNIA AIR RESOURCES BOARD	GENERAL MOTORS LLC	EXECUTIVE ORDER A-006-2124 New On-Road Heavy-Duty Engines Page 1 of 2 Pages
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Pursuant to the authority vested in the Air Resources Board by Health and Safety Code Division 26, Part 5, Chapter 2; and pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-14-012;

IT IS ORDERED AND RESOLVED: The engine and emission control systems produced by the manufacturer are certified as described below for use in on-road motor vehicles with a manufacturer's GVWR over 14,000 pounds. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR		ENGINE SIZES (L)	FUEL TYPE 1	STANDARDS & TEST PROCEDURE	INTENDED SERVICE CLASS <sup>2</sup>	ECS & SPECIAL FEATURES 3	DIAGNOSTIC 6
2018	JGMXE06.058	4 6.0	Gasoline	Otto	HDO	2TWC, 2HO2(S), SFI	OBD(F)
	YENGINE'S IDLE NS CONTROL 5 N/A		ADD	ITIONAL IDLE EN	IISSIONS COI	NTROL <sup>5</sup>	
ENGINE (	L)		ENGINE MODE	ELS / CODES (ra	ted power, in	hp)	
6.0	L96 / 80 (293); LC8 / 85 (293)						
	cable; GVWR=gross ve		R xyz=Title 13, California Code o	of Regulations, Sect	ion xyz; 40 CF	R 86.abc=Title 40, Code of Federal Regulatio	ns, Section 86.abc;

liter; hp=horsepower; kw=kilowatt; hr=hour; CNG/LNG=compressed/liquefied natural gas; LPG=liquefied petroleum gas; E85=85% ethanol fuel; MF=multi fuel a.k.a. BF=bi fuel; DF=dual fuel; FF=flexible fuel;

L/M/H HDD=light/medium/heavy heavy-duty diesel; UB=urban bus; HDO=heavy duty Otto;

<sup>3</sup> ECS=emission control system; TWC/OC=three-way/oxidizing catalyst; NAC=NOx adsorption catalyst; SCR-U / SCR-N=selective catalytic reduction – urea / – ammonia; WU (prefix) =warm-up catalyst; DPF=dissel particulate filter; PTOX=periodic trap oxidizer; HO2S/O2S=heated/oxygen sensor; HAFS/AFS=heated/air-fuel-ratio sensor (a.k.a., universal or linear oxygen sensor); TBI=throttle body fuel injection; SFUMFI=sequential/multi port fuel injection; DCI=direct dyscence are universed air-fuel-ratio sensor (a.k.a., universal or linear oxygen sensor); super charger; CAC=charge air cooler; EGR / EGR-C=exhaust gas recirculation / cooled EGR; PAIR/AIR=pulsed/secondary air injection; SPL=smoke puff limiter; ECM/PCM=engine/powertrain control module; EM=engine modification; 2 (prefix)=parallel; (2) (suffix)=in senies;

ESS=engine shutdown system (per 13 CCR 1956.8(a)(6)(A)(1); 30g=30 g/hr NOx (per 13 CCR 1956.8(a)(6)(C); APS =internal combustion auxiliary power system; ALT=alternative method (per 13 CCR 1956.8(a)(6)(D); Exempt=exempted per 13 CCR 1956.8(a)(6)(B) or for CNG/LNG fuel systems; N/A=not applicable (e.g., Otto engines and vehicles);

EMD+=engine manufacturer diagnostic system (13 CCR 1971.1); OBD=on-board diagnostic system (13 CCR 1971.1);

Following are: 1) the FTP exhaust emission standards, or family emission limit(s) as applicable, under 13 CCR 1956.8; 2) the EURO and NTE limits under the applicable California exhaust emission standards and test procedures for heavyduty diesel engines and vehicles (Test Procedures); and 3) the corresponding certification levels, for this engine family. "Diesel" CO, EURO and NTE certification compliance may have been demonstrated by the manufacturer as provided under the applicable Test Procedures in lieu of testing. (For flexible- and dual-fueled engines, the CERT values in brackets [] are those when tested on conventional test fuel. For multi-fueled engines, the STD and CERT values for default operation permitted in 13 CCR 1956.8 are in parentheses.).

in	NMHC		NOx		NMHC+NOx		CO		PM		нсно	
g/bhp-hr	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO
STD	0.14	*	0.20	*	*	*	14.4	*	0.01	*	0.01	*
FEL	*	*	0.42	*	*	*	*	*	*	*	*	*
CERT	0.05	*	0.19	*	*	*	2.2	*	0.01	*	0.001	*
NTE		*		*		*		*		*		*

g/bhp-hr=grams per brake horsepower-hour; FTP=Federal Test Procedure; EURO=Euro III European Steady-State Cycle, including RMCSET=ram mode cycle supplemental emissions testing; NTE=Not-to-Exceed; STD=standard or emission test cap; FEL=family emission limit; CERT=certification level; NMHC/HC=non-methane/hydrocarbon; NOx=oxides of nitroger CO=carbon monoxide; PM=particulate matter; HCHO=formaldehyde; (Rev.: 2007-02-26)

BE IT FURTHER RESOLVED: Certification to the FEL(s) listed above, as applicable, is subject to the following terms, limitations and conditions. The FEL(s) is the emission level declared by the manufacturer and serves in lieu of an emission standard for certification purposes in any averaging, banking, or trading (ABT) programs. It will be used for determining compliance of any engine in this family and compliance with such ABT programs

BE IT FURTHER RESOLVED: The manufacturer has demonstrated compliance with the Greenhouse Gas Emission Standards as specified in Title 13 CCR 1956.8 and the incorporated "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy Duty Otto Cycle Engines and Vehicles" (HDOE Test Procedures) adopted Dec. 27, 2000, as last amended Oct. 21, 2014 using the 2014 model year National Heavy-Duty Engine and Vehicle Greenhouse Gas Program as specified in Section 1036.108 of the HDOE Test Procedures. The manufacturer has submitted the required information and therefore has met the criteria necessary to receive a California Executive Order based on the Environmental Protection Agency's Certificate of Conformity for the above listed engine family.

	EPA CERTIFICAT		PRIMARY INTENDED SERVICE CLASS				
	JGMXEC	6.0584-001		VOCATI	TIONAL		
		CO2					
	FTP	SET					
STD	*	*		*	*		
FCL	*	*		*	*		
FEL	*	*		*	*		
CERT	*	*		*	*		
4 albba brace	s per brake borrenower bour. ETP	-Foderal Test Presedure: SET-	Supplemental omissions testing:	STD = standard or aming	ion test can: EEI =family emission limit:		

TRACTOR=tractor engine FCL=family certification level; CERT=certification level; CO2=carbon dioxide; CH4=methane; VOCATIONAL=vocational engine; N<sub>2</sub>O=nitrous oxide;

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**BE IT FURTHER RESOLVED:** For the listed engine models the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR 1965 (emission control labels), 13 CCR 1971.1 (on-board diagnostic), and 13 CCR 2035 et seq. (emission control warranty).

Engines certified under this Executive Order must 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 \_\_\_\_\_\_ day of November 2017.

Michael A.Kg Annette Hebert, Chie

Emissions Compliance, Automotive Regulations and Science Division