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-02-003;

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 FAMILY	ENGINE SIZES (L)	FUEL TYPE [1]	STANDARDS & TEST PROCEDURE	INTENDED SERVICE CLASS [2]	ECS & SPECIAL FEATURES [3]	DIAGNOSTIC [6]
2012	CRIIE06.8BWX	6.8	LPG	Otto	HDO	TWC, 2HO2S, HO2S, SFI	N/A

PRIMARY ENGINE'S IDLE EMISSIONS CONTROL [5]	ADDITIONAL IDLE EMISSIONS CONTROL [5]
N/A	N/A

ENGINE (L)	ENGINE MODELS / CODES (rated power, in hp)
6.8	See the attachment
*	*

* =not applicable; GVWR=gross vehicle weight rating; **13 CCR xyz**=Title 13, California Code of Regulations, Section xyz; **40 CFR 86.abc**=Title 40, Code of Federal Regulations, Section 86.abc; L=liter; hp=horsepower; kw=kilowatt; hr=hour;

[1] 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;

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

[3] 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=diesel 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; SFI/MFI=sequential/multi port fuel injection; DGI=direct gasoline injection; GCARB=gaseous carburetor; IDI/DDI=indirect/direct diesel injection; TC/SC=turbo/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 series;

[6] 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); 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 heavy-duty 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.). [4]

in g/bhp-hr	NMHC		NOx		NMHC+NOx		CO		PM		HCHO	
	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO
STD	0.14	*	0.20	*	*	*	14.4	*	0.01	*	0.01	*
FEL	*	*	*	*	*	*	*	*	*	*	*	*
CERT	0.14	*	0.09	*	*	*	6.5	*	0.004	*	0.01	*
NTE	*		*		*		*		*		*	

[4] 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 nitrogen; 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: For the listed engine models the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR 1965 (emission control labels) 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.
This Executive Order hereby supersedes Executive Order A-344-0029 dated March 5, 2012.

Executed at El Monte, California on this _____ 15th _____ day of November 2012.

Annette Hebert, Chief
Mobile Source Operations Division

Engine Model Summary Template

Attachment 1 of 2

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
CRIIE06.8BWX	CCR418N0500	E450 Incomplete	305@4250	NA	NA	420@3250	82.1	129	TWC/2HO2S/SFI, HO_2S
CRIIE06.8BWX	CCR418M0500	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR418D0500	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR41LN0500	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR41LM0500	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR418N0510	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR418M0510	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR418D0510	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR41LN0510	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR41LM0510	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR418N0520	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR418M0520	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR418D0520	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR41LN0520	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR41LM0520	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR418N0521	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR418M0521	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR418D0521	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR41LN0521	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR41LM0521	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR418N0501	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR418M0501	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR418D0501	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR41LN0501	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR41LM0501	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR418N0502	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR418M0502	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR418D0502	same	same	same	same	same	same	same	same

Engine Model Summary Template

Engine Family	1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm/stroke @ peak HP (for diesel only)	5.Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	6.Torque @ RPM (SEA Gross)	7.Fuel Rate: mm/stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
CRIIE06.8BWX	CCR41LN0502	same	same	same	same	same	same	same	same
CRIIE06.8BWX	CCR41LM0502	same	same	same	same	same	same	same	same