## **BAF TECHNOLOGIES**

EXECUTIVE ORDER A-364-0048 New On-Road Heavy-Duty Engines

## **⊘** Air Resources Board

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 FAM	LY	ENGINE SIZES (L)	FUEL TYPE 1	STANDARDS & TEST	SERVICE 2	ECS & SPECIAL FEATURES 3	DIAGNOSTIC 6		
2014	EBAFE06.83	EBAFE06.83NN		CNG	Otto	HDO	TWC, HO2S, SFI, 2AFS	EMD+		
PRIMARY ENGINE'S IDLE EMISSIONS CONTROL		ADDITIONAL IDLE EMISSIONS CONTROL 5								
	N/A	N/A								
ENGINE (	ENGINE MODELS / CODES (rated power, in hp)									
6.8	V-10 / BAFA683C (285)									
*					*					
*					*					
1 CNG/LN L/M/H F ECS=er up catalyst; TBI=throttle super charg control mod ESS=er	Introsepower, kw-kin MG=compressed/lique HDD=light/medium/he mission control syster DPF=diesel particul body fuel injection; ger, CAC=charge air dule; EM=engine mon ngine shutdown syste	owatt, nr efied natur avy heavy n; TWC/C ate filter; SFI/MFI=; cooler; E dification; m (per 13	-nour; 'al gas; LPG=liquefie '-duty diesel; UB=url DC=three-way/oxidizin PTOX=periodic trap o sequential/multi port f GR / EGR-C=exhaus 2 (prefix)=parallel; CCR 1956.8(a)(6)(A	d petroleum gas; E85=85% 6 pan bus; HDO=heavy duty O ng catalyst; NAC=NOx adsor oxidizer; HO25/025=heated/ uel injection; DGI=direct gas t gas recirculation / cooled E0 2) (suffix)=in series; (1); 30g=30 g/hr NOx (per 1:	ethanol fuel; MF=mult tto; ption catalyst; SCR-U oxygen sensor; HAF: oline injection; GCAR 3R; PAIR/AIR=pulseo 3 CCR 1956.8(a)(6)(C	i fuel a.k.a. BF=  I / SCR-N=selec  S/AFS=heated/a  B=gaseous cart d/secondary air i  ): APS=interna	R 86.abc=Title 40, Code of Federal Regulation  =bi fuel; DF=dual fuel; FF=flexible fuel;  tive catalytic reduction – urea? – ammonia;  iir-fuel-ratio sensor (a.k.a., universal or linear  suretor; IDI/DDI=indirect/direct diesel injection;  piection; SPL=smoke puff limiter; ECM/PCI  al combustion auxiliary power system; ALT=  (e.g., Otto engines and vehicles):	WU (prefix) =warm- oxygen sensor); on; TC/SC=turbo/ M=engine/powertrain		
				1); OBD=on-board diagnosti			(e.g., Otto engines and vehicles);			

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.).

in g/bhp-hr	NMHC		NOx		NMHC+NOx		со		PM		нсно	
	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	0.01	*	0.10	*	*	*	5.5	*	0.001	*	0.000	*
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), 13 CCR 1971 (engine manufacturer 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 October 2013.

rik White. Chief

Mobile Source Operations Division