California Environmental Protection Agency FAIR 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.

	ENGINE FAMIL		SINE	FUEL TYPE 1	STANDARDS & TEST	INTENDED SERVICE	ECS & SPECIAL FEATURES	DIAGNOSTIC ⁶ EMD			
TEAR		SIZE	SIZES (L)		PROCEDURE	CLASS 1	DDI, TC, CAC, ECM, EGR, OC,				
2012	2 CCEXH0729XAA 11		.9	Diesel	Diesel	HHDD	SCR-U, PTOX	ENID			
	ENGINE'S IDLE 5 NS CONTROL		ADDITIONAL IDLE EMISSIONS CONTROL								
30g		N/A									
ENGINE (L)			ENGINE MODE	LS / CODES (rat	ted power, in	hp)				
11.9	.9 ISX11.9 385R / 3440;FR20275 (379), ISX11.9 385R / 3440;FR20276 (379), ISX11.9 350R / 3440;FR20277 (341) ISX11.9 350R / 3440;FR20278 (341), ISX11.9 320R / 3440;FR20279 (315)										
	cable; GVWR=gross v =horsepower; kw=kilo		ng; 13 CC	R xyz=Title 13, California Code of	f Regulations, Sect	ion xyz; 40 CFI	R 86.abc=Title 40, Code of Federal Regulations	s, Section 86.abc;			
CNG/LN	IG=compressed/liquef	ied natural gas; L	PG=liquef	ed petroleum gas; E85=85% etha	anoi fuel; MF=mu <u>lt</u>	i 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;

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=throtite body fuel injection; SFI/MFI=sequential/multi port fuel injection; DGI=direct gasoline injection; GGARB=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 serie; AMOX=ammonia oxidation catalyst; SSS=prine obulder under sustem put fuel 162 (SU 1628 - 20 dir 1629 - 20 dir 16

ESS=engine shutdown system (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; 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 g/bhp-hr	NMHC		NOx		NMHC+NOx		CO		PM		нсно	
	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO
STD	0.14	0.14	0.20	0.20	*	*	15.5	15.5	0.01	0.01	*	*
FEL	*	*	*	*	*	*	*	*	*	*	*	*
CERT	0.04	0.01	0.12	0.09	*	*	1.1	0.00	0.004	0.002	*	*
NTE	0.21		0.30		*		19.4		0.02		*	

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 (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: Except in vehicle applications exempted per 13 CCR 1956.8(a)(6)(B), engines in this engine family certified under 13 CCR 1956.8(a)(6)(C) [30 g/hr NOx] and section 35.B.4 of the incorporated "California Exhaust Emissions Standards and Test Procedures for 2004 and Subsequent Model Heavy-Duty Diesel Engines and Vehicles" (HDDE Test Procedures) adopted Dec. 12, 2002, as last amended Sep. 1, 2006, shall be provided with an approved "Certified Clean Idle" label that shall be affixed to the vehicle into which the engine is installed.

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.

EXECUTIVE ORDER A-021-0574 Nèw On-Road Heavy-Duty Engines Page 2 of 2 Pages California Environmental Protection Agency CUMMINS INC. Θ AIR RESOURCES BOARD Executed at El Monte, California on this day of December 2011. Annette Hebert, Chief Mobile Source Operations Division

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