File

California Environmental Protection Agency AIR RESOURCES BOARD	CUMMINS, INC.	EXECUTIVE ORDER A-021-0335 New On-Road Heavy-Duty Engines

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-45-9; and

Pursuant to the December 15, 1998 Settlement Agreement between the Air Resources Board and the manufacturer, and any modifications thereof to the Settlement Agreement;

IT IS ORDERED AND RESOLVED: That 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 gross vehicle weight rating (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 SIZE (liter)	FUEL TYPE (CNG/LNG=compressed/liquefied natural gas; LPG=liquefied petroleum gas)	STANDARDS & TEST PROCEDURE	INTENDED SERVICE CLASS (L/M/H HDD=light/medium/heavy heavy-duty [HD] diesel; UB=urban bus; HDO=HD Otto)
2002	2CEXH0855NAA	14.0	Diesel	Diesel	HHDD

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	ENGINE MODELS / CODES (rated power in horsepower, hp)
DDI, TC, CAC, PCM	SEE ATTACHMENT

TWC/OC=three-way/oxidizing catalyst WU (prefix) =warm-up cat. O2S=oxygen sensor HO2S=heated O2S TBI=throttle body fuel injection MFI=multi port fuel injection SFI=sequentialMFI DDI/IDI=direct /indirect diesel injection TC/SC=turbo/super charger CAC=charge air cooler EGR=exhaust gas recirculation AIR=secondary air injection PAIR=pulsed AIR SPL=smoke puff limiter ECM/PCM=engine /powertrain control module EM=engine modification 2 (prefix)=parallel (2) (suffix)=in series

The following are the exhaust emission standards (STD), or family emission limit(s) (FEL) as applicable, and certification levels (CERT) in grams per brake horsepower-hour (g/bhp-hr) for this engine family for hydrocarbon (HC) or non-methane HC (NMHC), oxides of nitrogen (NOx), or NMHC+NOx, carbon monoxide (CO) [except that "diesel" CO certification compliance may have been demonstrated pursuant to Code of Federal Regulations, Title 40, Part 86, Subpart A, Section 86.091-23(c)(2)(i) in lieu of testing], particulate matter (PM), and formaldehyde (HCHO) under the "Federal Test Procedure" (FTP) (Title 13, California Code of Regulations, (13 CCR) Section 1956.1 (urban bus) or 1956.8 (other than urban bus)), and under the "Euro III Test Procedure" (EURO) in the Settlement Agreement, including a EURO's "Not-to-Exceed" NOx standard: (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 Section 1956.1 or 1956.8 are in parentheses.)

															EURO'S NOT-TO-EXCEED NOx STD	7.0
* = not applicable	HC		NMHC		NOx		NMHC+NOx		CO		PM		HCHO			
	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO	FTP	EURO		
(DIRECT) STD	1.3	1.3	*	*	4.0	6.0	*	*	15.5	15.5	0.10	0.10	*	*		
AVERAGE STD	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
FEL	*	*	*	*	*	*	*	*	*	*	*	*	*	*		
CERT	0.4	0.3	*	*	3.8	5.8	*	*	1.0	0.5	0.09	0.04	*	*		

BE IT FURTHER RESOLVED: That 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: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR Sections 1965 (emission control labels), and 2035 et seq. (emission control warranty).

BE IT FURTHER RESOLVED: That the listed engine models are conditionally certified subject to the following conditions: (1) The Settlement Agreement is in effect; and, (2) The manufacturer is in compliance with all applicable certification requirements of the Settlement Agreement and any modifications thereof.

Engines certified under this Executive Order shall conform to all applicable California emission regulations and all requirements under the Settlement Agreement and any modifications thereof.

The Bureau of Automotive Repair will be notified by copy of this Executive Order.
This Executive Order is not valid for engines produced on or after October 1, 2002.

Executed at El Monte, California on this 15th day of January 2002.

R. B. Summerfield, Chief
Mobile Source Operations Division

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Engine Model Summary Template Victor

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.I Dev
2CEXH0855NAA	2592;FR10269	N14-525E+	525@1800	293	177.7	1850@1200	317	141.0	PCM,TC,CAC, DDI
2CEXH0855NAA	2592;FR10268	N14-525E+	525@1800	293	177.7	1590@1200	273	121.4	P(
2CEXH0855NAA	2592;FR10288	N14-525E+	525@1800	293	177.7	1590@1200	273	121.4	P(
2CEXH0855NAA	2592;FR10281	N14-500E+	505@1800	283	171.6	1650@1200	283	126.1	P(
2CEXH0855NAA	2592;FR10267	N14-500E+	505@1800	283	171.6	1650@1200	283	126.1	P(
2CEXH0855NAA	2592;FR10282	N14-500E+	505@1800	283	171.6	1650@1200	283	126.1	P(
2CEXH0855NAA	2592;FR10287	N14-500E+	511@1800	286	173.9	1575@1200	270	120.3	P(
2CEXH0855NAA	2592;FR10266	N14-460E+	480@1800	268	162.6	1650@1200	283	126.1	P(
2CEXH0855NAA	2592;FR10280	N14-460E+	480@1800	268	162.6	1650@1200	283	126.1	P(
2CEXH0855NAA	2592;FR10286	N14-460E+	480@1800	268	162.6	1550@1200	266	118.5	P(
2CEXH0855NAA	2592;FR10265	N14-460E+	460@1800	256	155.4	1650@1200	283	126.1	P(
2CEXH0855NAA	2592;FR10264	N14-460E+	480@1800	268	162.6	1500@1200	258	114.7	P(
2CEXH0855NAA	2592;FR10279	N14-460E+	480@1800	268	162.6	1650@1200	283	126.1	P(
2CEXH0855NAA	2592;FR10263	N14-435 ESP+	450@1800	251	152.1	1550@1200	266	118.5	P(
2CEXH0855NAA	2592;FR10262	N14-435E+	450@1800	251	152.1	1650@1200	283	126.1	P(
2CEXH0855NAA	2592;FR10285	N14-435E+	450@1800	251	152.1	1550@1200	266	118.5	P(
2CEXH0855NAA	2592;FR10261	N14-435E+	435@1800	242	147.0	1550@1200	266	118.5	P(
2CEXH0855NAA	2592;FR10260	N14-435E+	448@1800	251	151.5	1450@1200	249	111.0	P(
2CEXH0855NAA	2592;FR10289	N14-435E+	435@1800	242	147.0	1450@1200	249	111.0	P(
2CEXH0855NAA	2592;FR10259	N14-435E+	435@1800	242	147.0	1450@1200	249	111.0	P(
2CEXH0855NAA	2592;FR10307	N14-435E+	435@1800	242	147.0	1650@1200	283	126.1	P(
2CEXH0855NAA	2592;FR10308	N14-500E+	505@1800	283	171.6	1750@1200	330	133.5	P(
2CEXH0855NAA	2592;FR10309	N14-460E+	480@1800	268	162.6	1550@1200	266	118.5	P(
2CEXH0855NAA	2592;FR10347	N14-435ESP+	450@1800	251	152.1	1550@1200	293	118.5	P(
2CEXH0855NAA	2592;FR10370	N14-435E+	435@1800	242	147.0	1450@1200	274	111.0	P(
2CEXH0855NAA	2592;FR10405	N14-475E+	490@1800	274	166.2	1650@1200	283	126.1	P(
2CEXH0855NAA	2592;FR10406	N14-475E+	490@1800	274	166.2	1750@1200	330	133.5	P(
2CEXH0855NAA	2591;FR10257	N14-460E+	475@1800	264	160.5	1650@1200	310	125.3	P(

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Engine Model Summary Template Victor

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.I Dev
2CEXH0855NAA	2591;FR10256	N14-460E+	475@1800	264	160.5	1550@1200	291	117.7	PCM, TC, CAC, DDI
2CEXH0855NAA	2591;FR10258	N14-460E+	475@1800	264	160.5	1450@1200	273	110.4	P(
2CEXH0855NAA	2591;FR10255	N14-435E+	450@1800	250	151.8	1550@1200	291	117.7	P(
2CEXH0855NAA	2591;FR10254	N14-435E+	448@1800	249	151.2	1450@1200	273	110.4	P(
2CEXH0855NAA	2591;FR10253	N14-435E+	435@1800	242	146.6	1450@1200	273	110.4	P(
2CEXH0855NAA	2591;FR10252	N14-400E+	405@1800	225	136.5	1450@1200	273	110.4	P(
2CEXH0855NAA	2591;FR10284	N14-410E+	427@1800	237	143.9	1450@1200	273	110.4	P(
2CEXH0855NAA	2591;FR10250	N14-370 ESP+	370@1800	206	124.8	1450@1200	273	110.4	P(
2CEXH0855NAA	2591;FR10251	N14-400E+	405@1800	225	136.5	1650@1200	310	125.3	P(
2CEXH0855NAA	2590;FR10249	N14-425E+	410@1800	231	140.2	1550@1200	282	114.1	P(
2CEXH0855NAA	2590;FR10248	N14-370E+	389@1800	217	131.8	1450@1200	263	106.5	P(
2CEXH0855NAA	2590;FR10247	N14-370E+	370@1800	205	124.6	1450@1200	263	106.5	P(
2CEXH0855NAA	2590;FR10277	N14-370E+	370@1800	205	124.6	1450@1200	263	106.5	P(
2CEXH0855NAA	2590;FR10283	N14-370E+	389@1800	217	131.8	1450@1200	263	106.5	P(
2CEXH0855NAA	2590;FR10246	N14-350E+	368@1800	204	123.8	1350@1200	245	99.2	P(
2CEXH0855NAA	2590;FR10245	N14-350E+	350@1800	193	117.1	1350@1200	245	99.2	P(
2CEXH0855NAA	2590;FR10244	N14-330 ESP+	330@1800	181	110.1	1350@1200	245	99.2	P(
2CEXH0855NAA	2590;FR10243	N14-330E+	330@1800	181	110.1	1350@1200	245	99.2	P(
2CEXH0855NAA									
2CEXH0855NAA	FEDERAL – ONLY								
2CEXH0855NAA	2963;FR10363	N14-525E+	525@1800	293	177.7	1850@1200	317	141.0	P(
2CEXH0855NAA	2963;FR10362	N14-525E+	525@1800	293	177.7	1590@1200	273	121.4	P(
2CEXH0855NAA	2963;FR10366	N14-525E+	525@1800	293	177.7	1590@1200	273	121.4	P(
2CEXH0855NAA	2963;FR10369	N14-500E+	505@1800	283	171.6	1650@1200	283	126.1	P(
2CEXH0855NAA	2963;FR10360	N14-500E+	505@1800	283	171.6	1650@1200	283	126.1	P(
2CEXH0855NAA	2963;FR10359	N14-500E+	505@1800	283	171.6	1650@1200	283	126.1	P(
2CEXH0855NAA	2963;FR10365	N14-500E+	511@1800	286	173.9	1575@1200	270	120.3	P(
2CEXH0855NAA	2963;FR10358	N14-460E+	480@1800	268	162.6	1650@1200	283	126.1	P(

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