

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-21-231

Relating to Certification of New Heavy-Duty Engines and Vehicles

CUMMINS ENGINE COMPANY, INC.

Pursuant to the authority vested in the Air Resources Board at Sections 43100, 43101, and 43102 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned at Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-9; and

Pursuant to the December 15, 1998 Settlement Agreement between the Air Resources Board and Cummins Engine Company, Inc. and any modifications to the Settlement Agreement;

IT IS ORDERED AND RESOLVED: That the following 1999 model-year Cummins Engine Company, Inc. diesel engines are certified for use in motor vehicles with a manufacturer's gross vehicle-weight-rating (GVWR) over 14,000 pounds:

Fuel Type: Diesel

<u>Engine Family</u>	<u>Displacement Liters</u>	<u>Cubic Inches</u>	<u>Exhaust Emission Control Systems and Special Features</u>
XCEXH0855NAD (093A4)	14.0	855	Turbocharger Charge Air Cooler Electronic Control Module

The engine models and codes are listed on attachments.

BE IT ORDERED AND RESOLVED: That the following are the certification exhaust emission standards for this engine family in grams per brake horsepower-hour under the Federal Test Procedure ("FTP") for Heavy-Duty Diesel Engines (Title 13, California Code of Regulations, Section 1956.8):

	<u>Total Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Particulate Matter</u>
"FTP"	1.3	15.5	4.0	0.10

BE IT FURTHER RESOLVED: That pursuant to the Settlement Agreement and any modifications thereof, the aforementioned engine family is also subject to the following emission standards, in grams per brake horsepower-hour, under the EURO III tests in the Settlement Agreement, and a "Not-to-Exceed" nitrogen oxides emission standard of 7.0 grams per brake horsepower-hour:

	<u>Total Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Particulate Matter</u>
"EURO III"	1.3	15.5	6.0	0.10

BE IT FURTHER RESOLVED: That the following are the certification exhaust emission values for this engine family in grams per brake horsepower-hour:

	<u>Total Hydrocarbons</u>	<u>Carbon Monoxide</u>	<u>Nitrogen Oxides</u>	<u>Particulate Matter</u>
"FTP"	0.4	1.0	3.8	0.09
"EURO III"	0.1	0.2	5.8	0.04

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with the Board's emission control system warranty provisions (Title 13, California Code of Regulations, Sections 2035 et seq.).

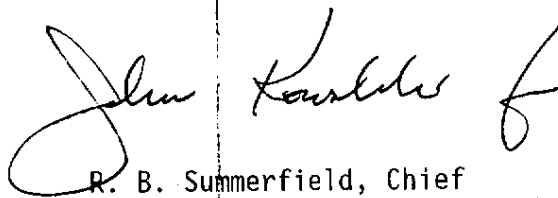
BE IT FURTHER RESOLVED: That the aforementioned engine family has been conditionally certified subject to the following conditions:

1. The Settlement Agreement is in effect.
2. The Settlement Agreement has not become null and void under Settlement Agreement Paragraph 165.
3. Cummins Engine Co., Inc. is in compliance with all applicable certification requirements of the Settlement Agreement.

Engines certified under this Executive Order must conform to all applicable California emission regulations and to all applicable terms and conditions of the Settlement Agreement.

The Bureau of Automotive Repair will be notified by copy of this order and attachments.

Executed at El Monte, California this 21st day of December 1998.



R. B. Summerfield, Chief
Mobile Source Operations Division

LARGE ENGINE MODEL SUMMARY

Manufacturer: Cummins Engine Company, Inc. Process Code: New Submission

EPA Engine Family: XCEXH0855NAD Manufacturer Family Name: 093A4

1.Engine Code	2.Engine Model	3.BHP@RPM (SAE Gross)	4.Fuel Rate: mm ³ /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 ³ /stroke@peak torque	8.Fuel Rate: (lbs/hr)@peak torque	9.Emission Control Device Per SAE J1930
CPL2592								
FR10269	N14-525E+	525@1800	293	177.7	1850@1200	317	141.0	ECM, TC, CAC
FR10268	N14-525E+	525@1800	293	177.7	1590@1200	273	121.4	ECM, TC, CAC
FR10288	N14-525E+	525@1800	293	177.7	1590@1200	273	121.4	ECM, TC, CAC
FR10281	N14-500E+	505@1800	283	171.6	1650@1200	283	126.1	ECM, TC, CAC
FR10267	N14-500E+	505@1800	283	171.6	1650@1200	283	126.1	ECM, TC, CAC
FR10282	N14-500E+ ST2	505@1800	283	171.6	1650@1200	283	126.1	ECM, TC, CAC
FR10287	N14-500E+	511@1800	286	173.9	1575@1200	270	120.3	ECM, TC, CAC
FR10266	N14-460E+	480@1800	268	162.6	1650@1200	283	126.1	ECM, TC, CAC
FR10280	N14-460E+ ST2	480@1800	268	162.6	1650@1200	283	126.1	ECM, TC, CAC
FR10286	N14-460E+	480@1800	268	162.6	1550@1200	266	118.5	ECM, TC, CAC
FR10265	N14-460E+ ST2	460@1800	256	155.4	1650@1200	283	126.1	ECM, TC, CAC
FR10264	N14-460E+	480@1800	268	162.6	1500@1200	258	114.7	ECM, TC, CAC
FR10279	N14-460E+	480@1800	268	162.6	1650@1200	283	126.1	ECM, TC, CAC
FR10263	N14-435 ESP+	450@1800	251	152.1	1550@1200	266	118.5	ECM, TC, CAC
FR10262	N14-435E+	450@1800	251	152.1	1650@1200	283	126.1	ECM, TC, CAC
FR10285	N14-435E+	450@1800	251	152.1	1550@1200	266	118.5	ECM, TC, CAC
FR10261	N14-435E+	435@1800	242	147.0	1550@1200	266	118.5	ECM, TC, CAC
FR10260	N14-435E+	448@1800	251	151.5	1450@1200	249	111.0	ECM, TC, CAC
FR10289	N14-435E+	435@1800	242	147.0	1450@1200	249	111.0	ECM, TC, CAC
FR10259	N14-435E+	435@1800	242	147.0	1450@1200	249	111.0	ECM, TC, CAC

EO A-21-231