State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-27-87

Relating to Certification of New Heavy-Duty Motor Vehicle Engines

MACK TRUCKS, 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 Mack Trucks, Inc. and any modifications to the Settlement Agreement;

IT IS ORDERED AND RESOLVED: That the following engine and emission control system produced by the manufacturer are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 14,000 pounds:

Model Year: 2001

Fuel Type: Diesel

Engine Family	Displacement Liters	Displacement Cubic Inches	Exhaust Emission Control Systems and Special Features
1MKXH11.9H59 (Family 59)	11.9	728	Turbocharger Charge Air Cooler Electronic Control Module Direct Diesel Injection Smoke Puff Limiter

Engine models and codes are listed on attachments.

BE IT ORDERED AND RESOLVED: That the following are the certification exhaust emission standards (Title 13, California Code of Regulations, Section 1956.8) and certification exhaust emission values for this engine family in grams per brake horsepower-hour under the Federal Test Procedure ("FTP"), except that compliance with the carbon monoxide exhaust emission standard has been demonstrated pursuant to Title 40, Code of Federal Regulations, Part 86, Subpart A, Section 86.091-23(c)(i):

	Total Hydrocarbons	Carbon Monoxide	Nitrogen Oxides	Particulate Matter
Standard	1.3	15.5	4.0	0.10
Certification	0.1	n/a	3.6	0.09

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

	Total Hydrocarbons	Carbon Monoxide	Nitrogen Oxides	Particulate Matter
Standard	1.3	15.5	5.8	0.10
Certification	0.02	n/a	5.1	0.06

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 listed engine models comply with the "California Motor Vehicle Emission Control and Smog Index Label Specifications" for the aforementioned model year (Title 13, California Code of Regulations, Section 1965).

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 manufacturer 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 22nd day of March 2001.

R. B. Summerfield, Chief
Mobile Source Operations Division

ATTACHMENT

Engine Model Summary Form

A-27-87

Manufacturer: **Mack Trucks, Inc.**
13302 Pennsylvania Avenue
Engine category: **On-highway HDDE**
EPA Engine Family: **1MKXH11.9H59**
Mfr Family Name: **FAMILY 59**
Process Code: **New Submission**

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
N/A	E7-460	487 @ 1800	258.9	162.1	1660 @ 1200	301.4	125.8	EM,EC,TC,CAC, DI,SPL
"	E7-427	427 @ 1800			1560 @ 1200			"
"	E7-400	400 @ 1800			1460 @ 1200			"
"	E7-355/380	355 @ 1800	191.8	120.1	1560 @ 1100	272.9	104.4	"
"	E7-350	350 @ 1800	191.0	119.6	1360 @ 1200	240.3	100.3	"
"	E7-330/350	330 @ 1800	177.6	111.2	1460 @ 1100	257.7	98.6	"
"	E7-310/330	310 @ 1800	166.3	104.1	1360 @ 1100	240.5	92.0	"
"	E7-310/330	310 @ 1700	178.4	105.5	1360 @ 1100	240.5	92.0	"
	E7-300	300 @ 1950	155.8	105.7	1160 @ 1200	204.6	85.4	"