State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-7-20

Relating to Certification of New Heavy-Duty Off-Road Equipment Engines

DETROIT DIESEL CORPORATION

Pursuant to the authority vested in the Air Resources Board by Sections 43000.5, 43013 and 43018 of the Health and Safety Code; and

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

IT IS ORDERED AND RESOLVED: That the following Detroit Diesel Corporation 1998 model-year engine, with rated power between 175 and 750 horsepower, and exhaust emission control systems are certified as described below for use in heavy-duty off-road equipment:

Typical Equipment Usage: Crane, Tractor, Pump, Compressor, and Generator Set

Fuel Type: Diesel

Engine Family	Displacements in Liters	Exhaust Emission Control Systems and Special Features
WDDXL11.1THD (Series-60)	11.1	Turbocharger Charge Air Cooler Engine Control Module

Engine models and codes are listed on attachments. Production engines shall be in all material respects the same as those for which certification is granted.

The total hydrocarbons (THC), carbon monoxide (CO), nitrogen oxides (NOx), and particulate matters (PM) certification exhaust emission standards, in grams per brake horsepower-hour (g/bhp-hr), and the opacity of smoke emission standards, in percent (%), during acceleration (Accel), lugging (Lug), and peak (Peak) modes, for this engine family are (Title 13, California Code of Regulations, Section 2423):

Exhaust Emissions (g/bhp-hr)				Smoke Opacity (%)		
THC	CO	NOx	PM	Accel	Lug	Peak
1.0	8.5	6.9	0.4	20	15	50

The THC, CO, NOx and PM exhaust emission certification values, in g/bhp-hr, and the opacity of smoke emission certification values, in percent (%), for this engine family are:

	Exhaust Emission (g/bhp-hr)				Smoke Opacity (%)		
Engine Family	THC	CO	NOx	PM	Accel	Lug	Peak
WDDXL11.1THD (Series-60)	0.2	0.6	6.4	0.1	4	1	8

BE IT FURTHER RESOLVED: That the listed engine models comply with the "Exhaust Emission Standards and Test Procedures--Heavy-Duty Off-Road Diesel Cycle Engines" (Title 13, California Code of Regulations, Section 2423) for the aforementioned model year.

BE IT FURTHER RESOLVED: That the listed engine models also comply with the "Emission Control Labels--1996 and Later Heavy-Duty Off-Road Diesel Cycle Engines" (Title 13, California Code of Regulations, Section 2424) for the aforementioned model year.

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, Section 2425 et seq.).

Engines certified under this Executive Order must conform to all applicable California emission regulations.

Executed at El Monte, California this 26th day of February 1998.

R. B. Summerfield, Chief
Mobile Source Operations Division

LARGE ENGINE MODEL SUMMARY

Manufacturer: **Detroit Diesel Corporation** Process Code: **New Submission**

EPA Engine Family: **WDDXL11.1THD** Manufacturer Family Name: **SERIES 60, 11.1L**

Engine Code	Engine Model	BHP@RPM (SAE Gross)	Fuel Rate: mm/stroke @ peak HP (for diesel only)	Fuel Rate: (lbs/hr) @ peak HP (for diesels only)	Torque @ RPM (SEA Gross)	Fuel Rate: mm/stroke@peak torque	Fuel Rate: (lbs/hr)@peak torque	Emission Control Device Per SAE J1930
1A21	S60, 11.1L	325 @ 2100	156.1	109.0	1150 @ 1200	208.7	83.3	EC TAA
1A18		325 @ 1800	171.1	102.4	1150 @ 1200	208.7	83.3	EC TAA
1B21	S60, 11.1L	300 @ 2100	146.1	102.0	1050 @ 1200	195.5	78.0	EC TAA
1B18		300 @ 1800	154.9	92.7	1050 @ 1200	195.5	78.0	EC TAA
1C21	S60, 11.1L	285 @ 2100	139.9	97.7	1000 @ 1200	185.6	74.1	EC TAA
1C18		285 @ 1800	147.7	88.4	1000 @ 1200	185.6	74.1	EC TAA
1D21	S60, 11.1L	330 @ 2100	158.5	110.7	1250 @ 1200	227.8	90.9	EC TAA
1D18		340 @ 1800	173.7	104.0	1250 @ 1200	227.8	90.9	EC TAA

ECM, TC, CAC

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