State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER A-108-15

Relating to Certification of New Heavy-Duty Motor Vehicle Engines

DEERE POWER SYSTEMS GROUP OF DEERE & COMPANY

Pursuant to the authority vested in the Air Resources Board by Sections 43100, 43102 and 43103 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 Deere Power Systems Group of Deere & Company 1999 model diesel engines are certified for use in motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 14,000 pounds:

Fuel Type: Compressed Natural Gas (CNG)

Engine Family	Liters	(Cubic Inches)	Exhaust Emission Control Systems and Special Features
XJDXH08.1001 (450CNG)	8.1	497	Engine Control Module Turbocharger Charge Air Cooler Oxygen Sensor

Engine models and codes are listed on attachments.

The following are the certification exhaust emission standards for this engine family in grams per brake-horsepower-hour:

Non-Methane Hydrocarbons	Carbon Monoxide	Nitrogen Oxides	Particulates
1.3	15.5	4.0	0.10

The following are the certification exhaust emission values for this engine family in grams per brake-horsepower-hour:

Non-Methane Hydrocarbons	Carbon Monoxide	Nitrogen Oxides	Particulates
0.4	2.2	2.6	0.05

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 2035 et seq.).

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 order and attachments.

Executed at El Monte, California this 11th day of January 1999.

R. B. Summerfield, Chief
Mobile Source Operations Division

Family Information Form

A-108-15

Manufacturer: **Deere Power Systems Group of Deere & Company**

Engine category: **On-Highway HDDE**

Cert contact: **Rick Bishop**

1. Model Year:	1998 99
2. Carry over:	Yes
If yes, list the previous family:	WJDX708.1001
3. Process Code:	New Submission
Date EPA Fee Paid:	
4. EPA Standard Engine Family:	XJDX708.1001
5. Mfr's Family Name:	450CNG
6. Engine Cycle:	Diesel
7. Displacement(s) (CID or Liters)	8.1 L
8. Engine Configuration:	I-6
9. Emission Control System:	☐ Catalyst ☐ EGR ☒ Engine Modification ☐ None ☒ Electronic Control ☐ Other... ☐ Smoke Puff Limiter 025
10. Fuel Type:	Natural Gas
11. Fuel System Type:	Throttle Body Injection
12. Method Of Aspiration:	Turbo Air to Air (TAA)
13. Useful Life Period:	8 years/185,000 miles
14. Deterioration Factor Type	
A. Gaseous Exhaust:	Additive
B. Smoke:	NA
15. Intended Service Class	MHDD

16. Projected Sales :

USA	[redacted]
CA	[redacted]
TOTAL	[redacted]

17. Estimated Production Period: Start 1/1/99 End 12/31/99

18. Sales Area: 50 States

19. Plant Contact:

[redacted]

20. Plant Location:

[redacted]

21. Program Information:

NCPs	AVE	B&T
☐ PM	☐ PM	☐ PM
☐ NOx	☐ NOx	☐ NOx
☐ NMHC+NOx	☐ NMHC+NOx	☐ NMHC+NOx
☒ None	☒ None	☒ None
☐ NA	☐ NA	☐ NA

22. Family Emission Limits:

PM	N/A
NOx	N/A
NMHC + NOx	N/A
Units:	

23. Nonroad Engine Equipment Types:

☐ Crane ☐ Dozer ☐ Generator Set
☐ Loaders ☐ Pump ☐ NA
☐ Tractor ☐ Compressor ☐ Other...

24. Auxiliary Emission Control Devices:

AECD	PARAMETER Sensed	PARAMETER Controlled	Does AECD result in reducing effectivness of emission control device(s):
Closed Loop Fuel Control	UEGO, EBP, ECT	Phi	○ Yes ◉ No
Adaptive Learn	MAP, RPM, UEGO, ECT	Phi	○ Yes ◉ No
Spark Control	ECT	Spark Advance	○ Yes ◉ No
Turbo Lag Compensation	MAP	Phi, Spark	○ Yes ◉ No
Altitude Derate	Baro	Map, phi	◉ Yes ○ No
Engine Protection Derates	MAT, ECT, Oil Pressure	MAP	○ Yes ○ No
Cold Start Table	ECT	Phi, RPM	○ Yes ○ No
			○ Yes ○ No
			○ Yes ○ No
			○ Yes ○ No

Engine Model Summary Form

A-108-15

Manufacturer: **Deere Power Systems Group of Deere**

Engine category: **On-highway HDDE**

EPA Engine Family: **XJDXT08.1001**

Mfr Family Name: **450CNG**

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
6081HFN01A		225@2200		84@2200	800@1350		64@1350	ECM, TC, CAC, DPS
6081HFN01B		250@2200		84@2200	745@1350		61@1350	ECM, TC, CAC, DPS