State of California AIR RESOURCES BOARD

EXECUTIVE ORDER U-R-15-2-1

Relating to Certification of New Heavy-Duty Off-Road Equipment Engines IVECO N.V.

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 Iveco N.V. 1996 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: Harvester, Crawler Dozer

Fuel Type: Diesel

| Engine Family | <u>Liters</u> | (Cubic Inches) | Exhaust Emission Control Systems and Special Features |
|---------------|---------------|----------------|---|
| TVE9.5R6DARA | 9.5 | (580) | Smoke Puff Limiter Turbocharger Charge Air Cooler |

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):

| <u>Exha</u> | Exhaust Emissions (g/bhp-hr) | | | Smoke Opacity (%) | | | |
|-------------|------------------------------|------------|-----------|---------------------|------------|-------------|--|
| THC | <u>co</u> | <u>NOx</u> | <u>PM</u> | <u>Accel</u> | <u>Luq</u> | <u>Peak</u> | |
| 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 | <u>co</u> _ | <u>NOx</u> | <u>PM</u> | <u>Accel</u> | Lug | <u>Peak</u> |
| TVE9.5R6DARA | 0.4 | 0.5 | 6.2 | 0.1 | 3 | 2 | 10 |

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.).

Executive Order U-R-15-2 dated March 27, 1996, is hereby superseded and cancelled by Executive Order U-R-15-2-1

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

Executed at El Monte, California this _

R. B. Summerfiel

day

Assistant Division Chief Mobile Source Division

of May 1996.

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.015 Manufacturer: <u>IVECO N.V.</u> Engine Family: <u>TVE9.5R6DARA</u> Displacement: 9.5/580 Liters/Cubic Inches Eng. Config: I-6 All Codes in Eng Fam: CA_____ 49S____ 50S__X Cert Test Procedures: ARB__ EPA_X Valves/Ports per Cylinder: 2 valves/cyl. Strokes per Combustion Cycle: 4-stroke Maximum Rated Power: 296 HP (221 KW) @ ____2100 RPM Ignition: Compression _____ Compression with Glow Plug X Spark _____ Fuel Type(s): Dedicated X Flex-Fuel Dual-Fuel Diesel X M100 M85 CNG ____ LNG__ LPG__ Other (specify) ____ Diesel Cert Fuel: 40 CFR 86.1313-94 X Other (specify) Primary Service Equipment: Combine Harvester, Crawler Dozer Exhaust ECS (e.g., MFI, TC, CAC): SPL, TC, CAC (use abbreviations per SAE J1930 JUN93)

| Engine Model (Eng Code) | Rated HP @ RPM | Fuel Rate @ Rated HP mm³ / stroke (lbs/hr) | Fuel Pump & Injector Part no. | Part no. GOVERNOR | EGR Valve Part no. | PTOX/ Catalytic Converter Part no. |
|----------------------------|-------------------|--|--|----------------------|--------------------------|---|
| 8465.41.985 | 296@2100 | 155 (108) | PES6P120A 720RS7224-2 0402746949 / KBEL 96 P116 646 | RQV 500- 1050K | N/A | N/A |
| 8465.41.016 | 253 @2100 | 129.5 (89.5) | PES6P120 A720 RS7409 0402746610 / KBEL 97 P97 680 | RQV450 1050PA1277 | N/A | N/A |

| Date Issued: | | | |
|---------------------------|------|-------|--|
| Revisions: April 11, 1996 | | L | |