California Environmental Protection Agency AIR RESOURCES BOARD	ALTERNATIVE FUEL TECHNOLOGY, INC.	EXECUTIVE ORDER A-339-0002 New On-Road Heavy-Duty Engines

Pursuant to the authority vested in the Air Resources Board by Health and Safety Code (HSC) Division 26, Part 5, Chapter 2; and pursuant to the authority vested in the undersigned by HSC Sections 39515 and 39516 and Executive Order G-45-9;

IT IS ORDERED AND RESOLVED: That the following engine and emission control systems produced by the manufacturer are certified as described below for use in on-road motor vehicles with a manufacturer's gross vehicle weight rating (GVWR) over 14,000 pounds. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY	ENGINE SIZE (liter)	FUEL TYPE	STANDARDS & TEST PROCEDURE	INTENDED SERVICE CLASS
2001	1AFTH0466NG1	7.6	Compressed Natural Gas (CNG)	Otto	Heavy-Duty

SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	ENGINE MODELS / CODES (rated power in horsepower, hp)
TWC, HO2S, TC, CAC, ECM, TBI	HDNG1 / 1505 (250 hp)
ABBREVIATIONS: OC=oxidizing catalyst TWC=three-way catalyst WU (prefix) =warm-up catalyst O2S=oxygen sensor HO2S=heated O2S TBI=throttle body fuel injection MFI=multiport fuel injection SFI=sequentialMFI DDI/IDI=direct /indirect diesel injection TC/SC=turbo/super charger CAC=charge air cooler EGR=exhaust gas recirculation AIR=secondary air injection PAIR=pulsed AIR SP=smoke puff limiter ECM/PCM=engine /powertrain control module EM=engine modification 2 (prefix)=parallel (2) (suffix)=in series	

The following are the exhaust emission standards, or family emission limit(s) (FEL) as applicable, and certification levels for this engine family for hydrocarbons (HC) or non-methane hydrocarbons (NMHC), oxides of nitrogen (NOx), or NMHC+NOx, carbon monoxide (CO), particulate matter (PM), and formaldehyde (HCHO) in grams per brake horsepower-hour (g/bhp-hr) (Title 13, California Code of Regulations, (13 CCR) Section 1956.1 (urban bus) or 1956.8 (other than urban bus)): (The emission standards and certification levels for default operations permitted under 13 CCR Section 1956.1 or 1956.8 are in parentheses.)

* = not applicable [g/bhp-hr]	HC	NMHC	NOx	NMHC+NOx	CO	PM	HCHO
(DIRECT) STANDARD	*	1.7	1.5	*	37.1	*	*
CORPORATE AVERAGE STANDARD	*	*	*	*	*	*	*
FAMILY EMISSION LIMIT (FEL)	*	*	*	*	*	*	*
CERTIFICATION LEVEL	*	0.0	1.4	*	5.6	*	*

BE IT FURTHER RESOLVED: That certification to the FEL(s) listed above, as applicable, is subject to the following terms, limitations and conditions. The FEL(s) is the emission level declared by the manufacturer and serves in lieu of an emission standard for certification purposes in any averaging, banking, or trading (ABT) programs. It will be used for determining compliance of any engine in this family and compliance with such ABT programs.

BE IT FURTHER RESOLVED: That at the manufacturer's request, the listed engine models have been certified to the **optional** lower NOx emission standard listed above pursuant to 13 CCR Section 1956.1 or 1956.8.

BE IT FURTHER RESOLVED: That for the listed engine models, the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR Sections 1965 (emission control labeling), and 2035 et seq. (emission control system warranty).

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

The Bureau of Automotive Repair will be notified by copy of this Executive Order.

Executed at El Monte, California on this 17th day of December 2001.

R. B. Summerfield, Chief
Mobile Source Operations Division