California Environmental Protection Agency AIR RESOURCES BOARD	QUANTUM TECHNOLOGIES, INC.	EXECUTIVE ORDER A-328-0036 New Diesel or Incomplete Medium-Duty Vehicles Using Certified 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-02-003;

IT IS ORDERED AND RESOLVED: That the diesel or incomplete medium-duty vehicles with a manufacturer's gross vehicle weight rating (GVWR) from 8,501 to 14,000 pounds are certified as described below. Production vehicles shall be in all material respects the same as those for which certification is granted.

ENGINE DESCRIPTION							
MANUFACTURER	MODEL YEAR	EXECUTIVE ORDER	ENGINE FAMILY	EMISSION STANDARD CATEGORY	ENGINE SIZE (liter)	FUEL TYPE (CNG/LNG=compressed/liquefied natural gas; LPG=liquefied petroleum gas)	STANDARDS & TEST PROCEDURE
QUANTUM TECHNOLOGIES, INC.	2003	A-328-0035	3TJXH06.0583	ULEV	6.0	Dual Fuel CNG or Gasoline	Otto

Gasoline, LPG or Alcohol Vehicles Only		VEHICLE MODEL YEAR	ON-BOARD DIAGNOSTIC	
EVAPORATIVE FAMILY	FUEL TANK CAPACITY (gallons)	2003	Partial Compliance	ENGINE MODELS / CODES (rated power in horsepower, hp)
		VEHICLE MAKE & MODELS		
3TJXE0133998	36	Chevrolet Silverado C2500 HD 2WD/K2500 HD 4WD (Dual Fuel); GMC Sierra C2500 HD 2WD/K2500 HD 4WD (Dual Fuel)		LQ4-CNG / 1 (286 hp for CNG, 310 hp for Gasoline)
*	*	*		*
*	*	*		*
*	*	*		*
*	*	*		*

The following are the exhaust emission standards (STD), or family emission limit(s) (FEL) as applicable, and certification levels (CERT) in grams per brake horsepower-hour (g/bhp-hr) for this engine family for non-methane hydrocarbon (NMHC) plus oxides of nitrogen (NOx) (NMHC+NOx), NMHC, carbon monoxide (CO) [except that "diesel" CO certification compliance may have been demonstrated pursuant to Code of Federal Regulations, Title 40, Section 86.091-23(c)(2)(i) in lieu of testing], particulate matter (PM), and formaldehyde (HCHO) (Title 13, California Code of Regulations, (13 CCR) Section 1956.8): (For flexible- and dual-fueled engines, the CERT values in brackets [ ] are those when tested on conventional test fuel.)

* = not applicable [g/bhp-hr]	NMHC+NOx	NMHC	CO	PM	HCHO
(DIRECT) STANDARD	1.5	*	14.4	*	0.050
CORPORATE AVERAGE STANDARD	*	*	*	*	*
FAMILY EMISSION LIMIT (FEL)	*	*	*	*	*
CERTIFICATION LEVEL	0.3 [0.6]	*	2.0 [2.0]	*	0.000 [0.002]

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 the listed engine models have been certified to the optional emission standards and test procedures in 13 CCR Section 1956.8 applicable to diesel or incomplete medium-duty vehicles with a GVWR from 8,501 to 14,000 pounds and, therefore, shall be subject to 13 CCR Section 2139(c) (in-use testing of engines certified for use in diesel or incomplete medium-duty vehicles with a 8,501-14,000 pound GVWR).

BE IT FURTHER RESOLVED: That the listed engine models have been certified to the Option 1 federal NMHC+NOx emission standard listed above pursuant to 13 CCR Section 1956.8.

BE IT FURTHER RESOLVED: That for the listed vehicle models, the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR Sections 1965 (emission control labels), 1968.1 (on-board diagnostic, full or partial compliance), 1976(b)(1)(B) and (C) {evaporative emission standards}, 2035 et seq. (emission control warranty), and 2235 [fill pipes and openings of motor vehicle fuel tanks]. (The braces { } are for gasoline, LPG or alcohol fueled vehicles only. The brackets [ ] are for gasoline or alcohol fueled vehicles only.)

Vehicles 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 20th day of December 2002.

Raphael Susnowitz

for Allen Lyons, Chief
Mobile Source Operations Division