California Environmental Protection Agency AIR RESOURCES BOARD	IMPCO TECHNOLOGIES, INC.	EXECUTIVE ORDER U-L-006-0040 New Off-Road Large Spark-Ignition Engines At & Above 19 Kilowatts

Pursuant to the authority vested in the Air Resources Board by the Health and Safety Code, Division 26, Part 5, Chapters 1 and 2; and

Pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-02-003;

IT IS ORDERED AND RESOLVED: That the following new large spark-ignition engines and emission control systems produced by the manufacturer are certified for use in off-road equipment as described below. Production engines shall be in all material respects the same as those for which certification is granted.

MODEL YEAR	ENGINE FAMILY NAME	ENGINE DISPLACEMENT (liters)	FUEL TYPE
2009	9Z9XB01.6GAL	1.6	Gasoline, LPG, Gasoline-LPG Dual Fuel

DURABILITY HOURS	SPECIAL FEATURES & EMISSION CONTROL SYSTEMS	TYPICAL EQUIPMENT USAGE
5000	Gaseous Fuel Mixer (LPG), Multi-Port Fuel Injection (Gas), Heated Oxygen Sensors (2), Three-Way Catalytic Converter	Forklift, Aerial Lift, Sweeper, Tractor/Tug, Generator, Other Industrial Equipment

ENGINE MODELS (rated power in kilowatt, kW)	GM 1.6L Dedicated LPG (34 kW), GM 1.6L Dedicated Gasoline (37 kW), GM 1.6L Dual Fuel LPG/Gasoline (34 / 37 kW)

The following are the hydrocarbon plus oxides of nitrogen (HC+NOx) and carbon monoxide (CO) exhaust certification emission standards (Title 13, California Code of Regulations, (13 CCR) Section 2433(b)(1)) and certification emission levels for this engine family in grams per kilowatt-hour (g/kW-hr). Engines within this engine family shall have closed crankcases in conformance with 13 CCR Section 2433(b)(3) of "California Exhaust and Evaporative Emission Standards and Test Procedures for New 2007 through 2009 Off-Road Large Spark-ignition Engines (2007- 2009 Test Procedure 1048)" amended March 2, 2007.

(g/kW-hr)	HC+NOx	CO
Exhaust Standards	1.3	11.1
Certification Levels	0.5	1.8

The following is the evaporative hydrocarbon emission standard (13 CCR Section 2433(b)(3)) and certification emission level for this engine family in grams per gallon of fuel tank capacity (g/gallon).

Evaporative Certification Method	HC Certification Level (g/gallon)	HC Certification Standard (g/gallon)
Design Based	N/A	0.2

BE IT FURTHER RESOLVED: That for the listed engines for the aforementioned model-year, the manufacturer has submitted, and the Executive Officer hereby approves, the information and materials to demonstrate certification compliance with 13 CCR Section 2433(c) (certification and test procedures), 13 CCR Section 2434 (emission control labels), and 13 CCR Sections 2435 and 2436 (emission control system warranty).

BE IT FURTHER RESOLVED: That the listed engine models have been certified to the optional HC+NOx and CO emission standard(s) listed above pursuant to 13 CCR 2433 (b)(2)(A).

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

This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.

Executed at El Monte, California on this 11th day of December 2008.

Annette Hebert, Chief
Mobile Source Operations Division