



**PHOTO AVAILABLE: Power+Energy, Inc. Introduces Family Of Hydrogen Separators For Fuel Cell Applications**

*Membrane systems will extract clean hydrogen from a wide variety of reformed fuels including diesel*

For Immediate Release

IVYLAND, Pa./EWorldWire/Jan. 19, 2006 --- Power+Energy, Inc. (P+E), a leading global supplier of hydrogen membrane systems has introduced a line of commercial hydrogen separators including models that can tolerate and remove sulfur from reformed fuel streams. Based on palladium alloy membranes, the company has developed an entirely new membrane configuration specifically engineered to maximize the recovery efficiency of hydrogen from a mixed gas stream. These separators are designed to be coupled with fuel reformers including methanol, ethanol, natural gas, propane, ammonia, gasoline or diesel fuels. In addition, it will also provide the capability to separate hydrogen from alternative fuels including land-fill gases, synthesis gases, and biomass digesters among others.

The availability of sulfur-compatible hydrogen separation membranes offers substantial benefits for a wide range of fuel cell applications in both military and industrial/commercial applications. A major opportunity exists for fuel cell-based auxiliary power units (APU) for all types of vehicles, many of which have diesel engines. The availability of fuel cell-based APU's that can operate with standard diesel fuel will open significant opportunities for industry at large. At present, both the complexity of hydrogen separation and the limited availability of sulfur-free diesel fuel are limiting the implementation of fuel cells for auxiliary power applications. This breakthrough will also enable the use of fuel cells for emergency and backup power fueled with commercially available diesel fuel or home heating oil. In addition, these membranes will also enable the use of various renewable and alternative fuels as sources of hydrogen for fuel cells.

P+E exhibited its hydrogen membrane systems at the recent 2005 Fuel Cell Seminar (November 14-17) in Palm Springs, California. At this same conference, the company also presented a technical paper on the performance of its membranes as a membrane reactor. In this mode of operation, the membranes will also complete the conversion of residual carbon monoxide into hydrogen and carbon dioxide (water-gas shift).

Power+Energy, Inc., established in 1993, is a privately held firm based near Philadelphia, Pennsylvania. The company develops and manufactures hydrogen purifiers and separators for a number of applications including semiconductor fabrication, laboratory applications and for fuel cell development. P+E has a worldwide customer base and supplies hydrogen purifiers to many leading producers of advanced semiconductors including most major suppliers of high brightness light emitting diodes (LEDs).

The company now offers membrane-based hydrogen separators for a variety of applications including the generation of hydrogen from alternative (non-petroleum derived) fuels. P+E is now accepting orders for hydrogen separators and is seeking collaborative partnerships with firms developing reformers, hydrogen generators, fuel cells and integrated power generation systems.

P+E will be exhibiting its products and offering additional information at several upcoming technical conferences: Fuel Cell Expo, Tokyo (January 25-27, 2006), Hydrogen Expo USA and the NHA Annual Hydrogen Conference, Long Beach, California (March 12-14, 2006) and Thermec 2006 to be held in Vancouver, British Columbia (July 4-8, 2006).

A newly published product line brochure and an applications guide are available at P+E's website ([www.powerandenergy.com](http://www.powerandenergy.com)). An updated copy of P+E's technical presentation from the Fuel Cell Seminar retitled "A Novel Approach to Energy Independence" is also available for download in the Science and Technology section of the website.

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