VIDEO AVAILABLE: Power+Energy Inc. Receives New Navy SBIR Award

P+E to develop alternatives for a sulfur compatible hydrogen separation membranes

For Immediate Release

IVYLAND, Pa./EWORLDWIRE/May 5, 2005 --- Power+Energy, Inc. (P+E) has been awarded a new Phase I SBIR contract by the Navy entitled "Hydrogen Separation from a Logistic-Fuel Reformate Stream." Under this contract P+E will investigate alternatives for developing a Palladium alloy membrane hydrogen separator which can reliably process a reformate feed stream containing from 100 to 400 parts per million of sulfur.

This award is a component of the Navy's effort to operate ship-service fuel cells with hydrogen from logistic fuels. These standard logistical diesel fuels can contain a wide range of sulfur impurity levels. Fuel cell systems can be damaged by trace quantities of sulfur, so it is critical that a diesel fuel processing system be capable of tolerating and removing the sulfur impurities in the diesel fuel. Historically, efforts have focused on removal of sulfur contamination at the beginning of the fuel processing cycle. These desulfurization processes are both costly and maintenance-intensive and add significant complexity to the overall system. This program is seeking to develop a membrane that will tolerate higher levels of sulfur while reliably delivering hydrogen to the fuel cells with no trace sulfur.

The availability of sulfur-compatible hydrogen separation membranes will offer substantial benefits to 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 APUs that can operate with standard diesel fuel will open significant opportunities for the industry. At present, both the complexity of the hydrogen separation and the limited availability of sulfur-free diesel fuel are limiting the implementation of fuel cells for auxiliary power applications. When available, this breakthrough would also enable the use of fuel cells for emergency power that can be fueled with diesel fuel or home heating oil. In the long term these membranes will also enable the use of other renewable, alternative fuels as sources of hydrogen for fuel cells.

About Power+Energy, Inc.

Power+Energy, Inc., established in 1993, is a privately held firm based near Philadelphia, Pennsylvania. P+E 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 (LED).

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.

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