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**December 2011**

### Greetings!

Welcome to our December 2011 Newsletter, we are pleased to update you on recent news for Power+Energy.

As 2011 comes to a close, we would like to thank you for your interest in, and support of our company, products and technology. Power+Energy has made great strides in 2011 and is looking forward to a bright 2012.

Please accept our wishes for a happy, healthy and prosperous holiday season and the very best for 2012.

Thank you.

### Power+Energy Ships Purifiers to Two New Customers in China

#### Capturing New Markets in China

Power+Energy has recently shipped a model PE9070MZ2 (70 NM3/hr nominal capacity) to an LED manufacturer in China. In addition, P+E has shipped a model PE2100MP purifier to another electronics firm. Both are new customers that expand the installed base of P+E h2 purifiers within China.

### P+E Presentation at the Low Carbon Earth Summit

#### Presentation Delivered by Noel Leeson, President & COO of Power & Energy, Inc.

On October 23, 2011, Noel Leeson, President and COO of Power & Energy, Inc. made a presentation at the Low Carbon Earth Summit held in, Dalian, China, entitled: "Point of Use Production of Low Cost, High Purity H2 from Efficient Steam Reforming of Natural Gas" (included in this mailing) or you can download the PDF version from our website at:

<http://www.powerandenergy.com/pdfs/Power+Energy%20LCES.pdf>

### P+E Issues White Paper on Purification Technology

#### New Hydrogen Purification White Paper

Power+Energy has issued a new White Paper reviewing recent innovations in palladium membrane technology and the impact on purifier performance and reliability. The paper "A Durable Gas Purification

Technology for High-flow Hydrogen in LED, Power Device and Photovoltaic Fabrication" is included in this mailing and available for download as in PDF format from our website at:

[http://powerandenergy.com/pdfs/Durable\\_Pd\\_Technology.pdf](http://powerandenergy.com/pdfs/Durable_Pd_Technology.pdf)

## **New P+E PE9000MZ 2.0 Series Hydrogen Purifiers for 2012**

### **Power+Energy will introduce its 2nd Generation PE9000MZ Series Purifier in Q1 2012**

Building upon the successful global launch of the PE9000MZ series purifiers, P+E has now finalized specifications for a second generation version to be introduced in early 2012. This unit will continue to offer the smallest footprint for a Class 1, Div. 2 compliant Palladium Alloy Hydrogen purifier along with a number of improvements to simplify installation, service and user access.

Key new features for the PE9000MZ 2.0 include a modified interior layout featuring a Z-purged control panel and AC power box mounted on the door to allow access to the process cabinet without disrupting the purge on the electrical boxes. There is a simplified valve layout providing easier access to the purifier cells and increased interior room for optional features including pre-treatment modules for removal of oxygen or sulfur impurities, mass flow meter, pressure regulator and CDA ventilation. There are also a dedicated port for sampling of the purified hydrogen and a port for testing the internal hydrogen leak sensor without having to open the cabinet or disrupt operation.

The new series will continue to feature P+E's Micro-channel membrane technology providing high-reliability, consistent 9-9's purity hydrogen for flows ranging from 2 NM<sup>3</sup>/hr to 176 NM<sup>3</sup>/hr (32 to 2900 slpm) or (68 to 6144 scfh) under nominal conditions. This combination of consistent purity, low cost of ownership and range of flow capacities is unmatched across all types of hydrogen purifiers.

A summary of the PE9000MZ 2.0 specifications and features is included in this mailing and available for download in PDF format from our website at: <http://www.powerandenergy.com/pe9000mz2.html>

If you have any questions, or would like to receive more information on these or other topics, please contact me.

**Sincerely,**

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