



**PRINCETON POWER SYSTEMS UNVEILS HIGH-VOLTAGE DC TRANSFORMER
A New Technology Advancement Allowing for Affordable MW-scale DC Transmission**

(December 19, 2011) PRINCETON, NJ – Princeton Power Systems (PPS) today uncovered its bi-directional high-voltage DC Transformer, a new technology used for transmission and distribution applications. The transformer will function as a beneficial power management device, distributing power between two or more remote locations in Alaska.

The DC transformer, scheduled to be installed in early 2012, is the first of its kind allowing for economical transmission of power over DC power lines. Executive Vice President Darren Hammell states, “Reducing the cost of power transmission is beneficial for applications including offshore wind, hydropower generation, and is critical for connecting communities in places like rural Alaska that do not have easy access to a conventional electric grid.”

In addition to the bi-directional capabilities of the transformer, it also dramatically decreases the cost of electricity by eliminating the need for small distributed diesel generators, currently used to power many rural communities. While AC power lines are more conventionally used for transporting electricity, the DC transmission line demonstrates more efficiency over relatively short distances and low power levels. When interconnected with a DC transmission line, more efficient central generators and renewable generators can power multiple communities, adding redundancy and reliability to the power supply.

According to Chief Technology Officer Mark Holveck, “The HVDC Transformer has been the missing link in DC transmission systems at these power levels. The technology we are demonstrating allows bi-directional power flow at high-efficiency so that it truly enables DC interconnections.”

The primary projects intended for the transformer are meant to transport power over distances of roughly 25 miles, but the transformer and DC transmission technology are capable of much greater and shorter distances. The transformer has a rating of one megawatt (1 MW) of power and can be installed



in parallel for much higher power levels. With this technology's ability to function over great distances, the transformer will be useful for sending power over large bodies of water, or large areas similar to the rough terrain in Alaska.

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