



PRINCETON POWER SYSTEMS DEVELOPS HIGH-VOLTAGE DC CONVERTER FOR REMOTE ALASKA INTERTIES

PRINCETON, NJ June 29, 2009—Princeton Power Systems (PPS) recently announced the development of a high-voltage direct current AC-link converter to Polarconsult Alaska, Inc. (Polarconsult). PPS was contracted by Polarconsult to design, build, and test a prototype of a highly-efficient, cost-effective converter for use in High Voltage Direct Current (HVDC) transmission systems. Successful testing of the 250 kW HVDC converter prototype was completed in February 2009.

The PPS HVDC AC-link Power Converter changes Alternating Current (AC) power to High Voltage Direct Current (HVDC) power for transmission, and then back to AC again at the user site – in this case small villages in Alaska. By enabling economical HVDC power transmission at very low power levels, the converter will help to reduce the capital costs of remote power interties, enabling Alaska communities to reduce their electrical service costs in a way not possible with existing transmission technologies.

The project was undertaken in 2005 due to the alarming increase in the cost of diesel fuel in remote Alaska villages, which resulted in electricity costs approaching 80 cents per kWh in some areas. Although there are abundant local energy resources throughout Alaska, the small size of the villages makes developing these local energy resources prohibitively expensive. By interconnecting villages, the economies of scale necessary to develop local energy resources would be achieved, however, the cost of conventionally-built interties is very high due to the vast distances between villages. The HVDC system under development by Polarconsult and PPS will dramatically reduce the costs of remote Alaska interties, providing lower cost and locally sourced electricity to Alaska's villages. The HVDC AC-link Converter is a key component of this new transmission system.

The Denali Commission, an independent federal agency designed to provide critical utilities, infrastructure, and economic support throughout Alaska, provided \$700,000 in funding to complete Stage I of the project. The non-profit electric utility, Alaska Village Electric Cooperative (AVEC), administered the grant and provided technical input to developing the converter and intertie concept. AVEC provides electricity utility service to 52 villages located throughout western, northern, and central Alaska.

About Polarconsult Alaska, Inc.

Polarconsult is a consulting engineering firm headquartered in Anchorage, Alaska. Polarconsult has provided full-service engineering to communities located throughout the state of Alaska for over thirty years. Polarconsult excels at creating low-cost solutions to unique Alaska problems through innovation and creative application of our extensive engineering experience in Alaska.

About Princeton Power Systems

Princeton Power Systems is a manufacturer of advanced power conversion products, including AC-link™, with patented control methods that provide a more reliable and cost-effective means for converting electric power cleanly and efficiently. We have solutions for motor control, renewable energy, distributed power generation, and military power supplies. Our products reduce energy consumption, lower peak electric usage, and provide clean, renewable energy with superior performance.

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