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SEL Makes Electric Power Grids Smarter—25 Years and Counting

PULLMAN, WA — February 3, 2009 — Schweitzer Engineering Laboratories, Inc. (SEL) today announced that smart technology invented, designed, and manufactured at Schweitzer Engineering Laboratories for the past 25 years is gaining new exposure thanks to increased global interest in making electric power grids smarter.

In a January 29, 2009 *USA TODAY* article entitled “Buzz grows for modernizing energy grid,” reporter Paul Davidson writes, “utilities and venture-capital firms are bucking the credit crisis and pouring billions of dollars into the ‘smart grid.’” Southern California Edison’s Senior Engineer Ed Kamiab is pictured in the article using SEL equipment as part of the smart grid in San Bernardino County. The equipment, manufactured in Pullman, Washington, measures and manages the grid to the millisecond. Davidson reports that “the electric grid is finally following telecommunications, TVs, and music into the digital age,” adding that, “utilities can more nimbly control the electricity that flows over the wires to prevent outages such as the 2003 Northeast blackout.”

“When there was trouble on the distribution system, it used to take hours to restore service,” remembers SEL’s founder and president, Ed Schweitzer. SEL technology has reduced service interruptions to less than one tenth of a second. “Power is re-routed and restored so quickly that motors don’t stall, computers don’t need to be re-booted, and alarm clocks don’t need to be reset,” said Schweitzer. Today’s addition of distributed resources like wind, solar, and biogeneration to the grid have created new protection and control schemes that view the grid as a wide-area system and has driven demand for smart solutions. In this case, variable generation from wind must be seamlessly coordinated with traditional generation to match demand. SEL synchrophasor technology, included in most relays at no charge, provides the optimal information and processing to incorporate this new control.

While the push for a “smarter” grid is fairly recent, SEL realized this need 25 years ago when it pioneered smart grid technology in 1984 and invented the world’s first digital distance protection relay. This revolutionary new relay could protect transmission lines, locate faults, and communicate fault location to repair crews. Intelligent Electronic Devices (IEDs) added benefits and functionality that have made today’s smart grid a reality.

SEL’s collaboration with S&C Electric Company is another example of SEL smart technology. Together these companies built a power protection loop that supervised power to the International Drive area of Orlando, Florida. This loop power system provided distribution protection at transmission speeds, reducing outage times from hours to tenths of a second, leaving most customers unaffected by faults.

SEL’s current participation in Xcel Energy’s SmartGridCity™ in Boulder, Colorado, has been yet another opportunity for SEL to showcase its solutions for improving grid reliability by isolating



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faults, restoring power, and monitoring demand. The SmartGridCity project achieves improved grid performance, power reliability, and conservation that result from applying smart grid technologies. Simplified and standardized substation communications and control elements from SEL also support Xcel Energy's Smart Substation project at the Merriam Park substation in St. Paul, Minnesota.

SEL, a U.S.A. manufacturer, continues to provide smart reclosing relays, synchronized phasor measurements, wide-area control with synchrophasor processing, fault indication solutions for mesh networks, MIRRORED BITS® communications, the fastest protection on the market, and many other smart solutions. As the company celebrates 25 years of making electric power grids smarter, its focus will continue to be making electric power safer, more reliable, and more economical in the years to come.

SEL serves the electric power industry worldwide through the design, manufacture, supply, and support of products and services for power system protection, monitoring, control, automation, and metering. SEL offers unmatched local technical support, a worldwide, ten-year product warranty, and a commitment to making electric power safer, more reliable, and more economical.

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